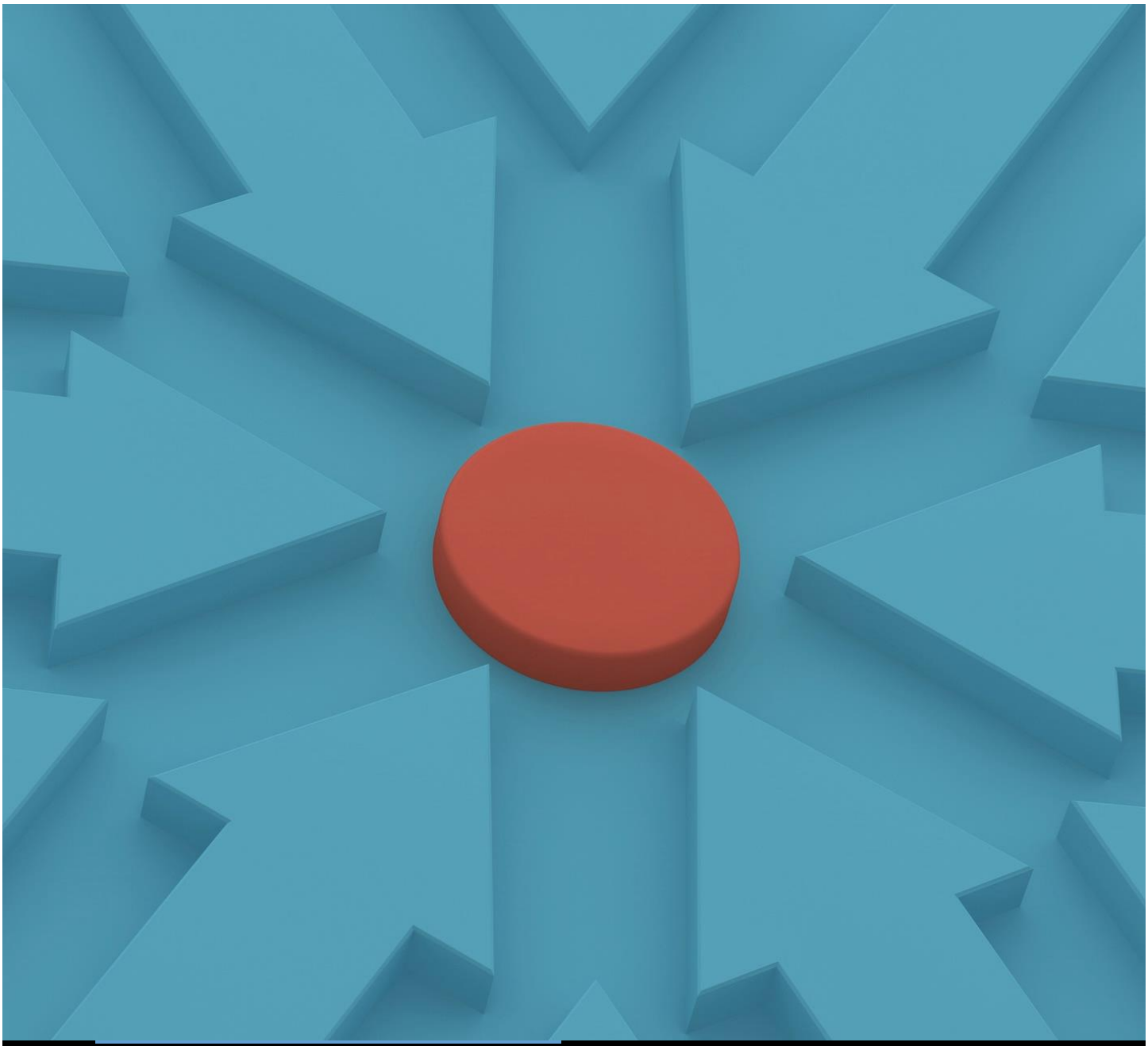

BUDGET PROJECTIONS FOR STRATEGIC FINANCIAL PLANNING

THE VALUE OF SCENARIOS

Simmons & Simmons Group, LLC

https://simmonsgroup.org/4-sight/

The Challenge

University financial officers are often tasked with developing multi-year budget projections as part of the Strategic Planning process. Yet, most higher education institution budgets are highly dependent on enrollment which is notoriously difficult to predict. So, how does one develop reliable, multi-year budget projections that are data-driven when enrollment varies year-to-year?

Forecasting

First, it is important to remember that a forecast – like a weather forecast - involves predicting the future, which means we are working in probabilities, not absolutes. The basic premise is to use historical trends and known relationships, to generate probable scenarios of the future. For example, meteorologists use the weather patterns from the previous days in upwind regions to generate the most likely weather outcome and they assign a probability to it (e.g., “80% chance of rain”). The bottom line is that forecasting will never be 100% accurate and when you are talking about forecasting a budget five years in the future, one questions the reliability of such a projection. After all, the output from a model is only as good as the input.

Scenario Planning

The concept of scenario planning is not to arrive at a single, definitive output number but rather to generate a series of possible outcomes that will show the potential range of variation in outputs, the most likely outcomes, and the inputs that have the largest influence on the outputs. In the case of a college or university, an enrollment or financial computer model can be used to generate scenarios. The model combines basic inputs, like the number of entering freshmen, retention rate, discount rate, and tuition, with an algorithm that can transform the input values into output values of interest.

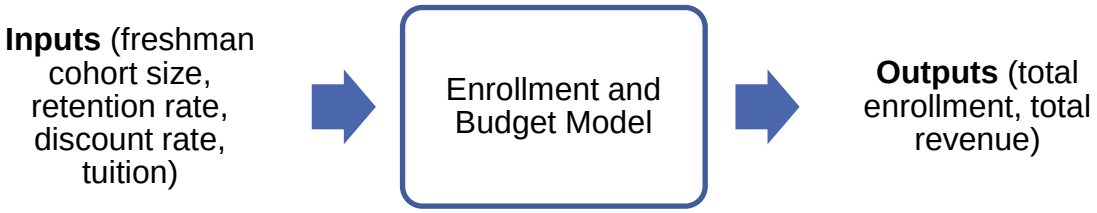

Figure 1. Conceptual diagram of a basic enrollment and budget model.

Below are three common uses of these enrollment and budget projection models.

1 If a university's freshman cohort size historically varied by 1-4% year to year, they could run four scenarios through the model in which recruitment varied by +2%, +4%, -2% and -4% per year (see Figure 2). The upper and lower lines of this chart represent the best-case and worst-case scenarios. This information could then inform the size of the contingency fund or how much to allocate to Admissions.

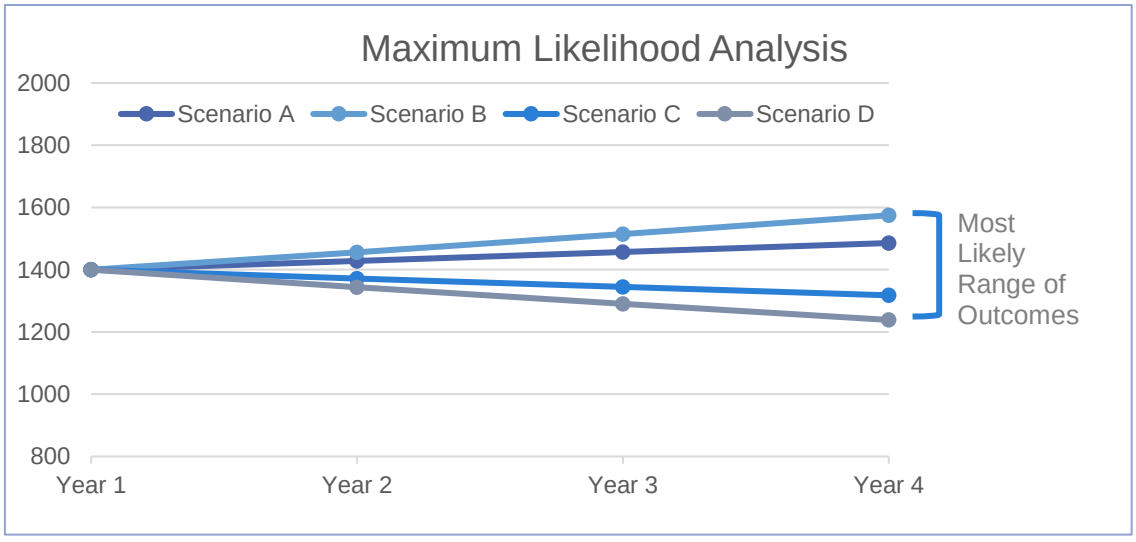

Figure 1. Maximum likelihood analysis of total enrollment over a 4-year period. Scenarios A-D represent annual changes of +4%, +2%, -2% and -4% to freshman recruitment, respectively

2 Scenarios can also shed light on the effects of different recruitment patterns such as comparing the revenue impacts of a gradual decline in recruitment over four years versus a large, one-time drop in recruitment (see Figure 3). As the model output shows, a single poor recruiting year has a four-year impact on revenue.

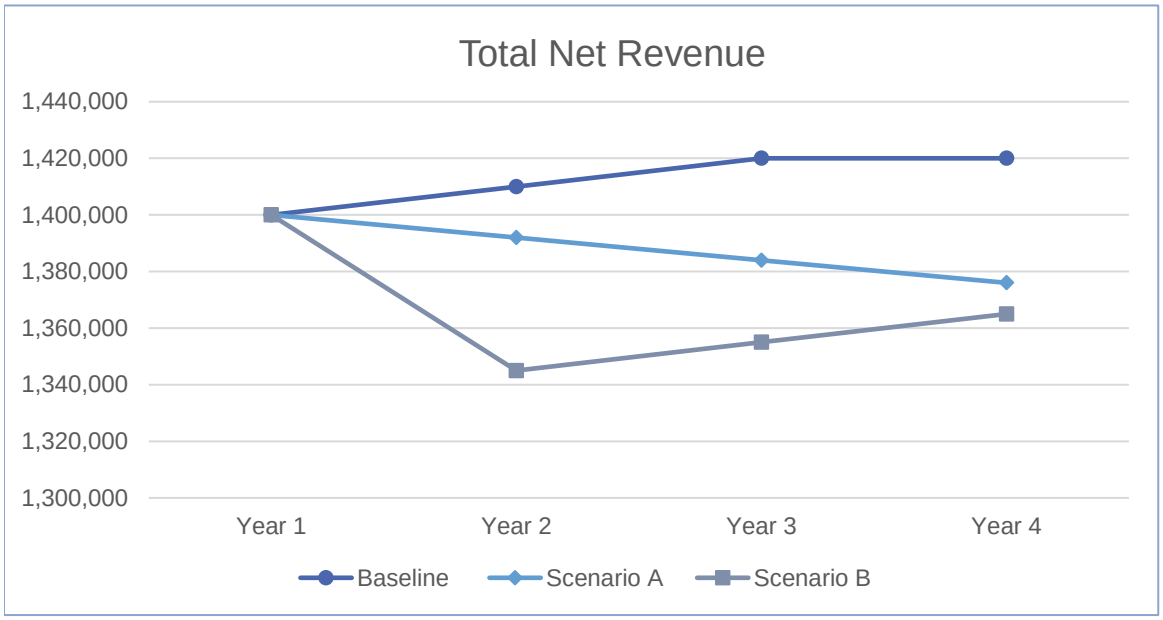

Figure 2. Total net revenue from three different model scenarios. Scenario A represents a gradual decline in freshman recruitment. Scenario B represents a large, one-time dip in recruitment followed by recovery.

3 A third use of scenario analysis is to determine which inputs have the greatest influence on the outputs or put another way, which of the inputs are the outputs most sensitive to? In this Sensitivity Analysis, numerous scenarios are run while changing just one input parameter at a time. The input parameters that lead to the greatest change in total net revenue are the High Impact Inputs (HII). Identifying the HII allows senior leaders to prioritize the allocation of resources to those areas that will have the greatest positive impact.

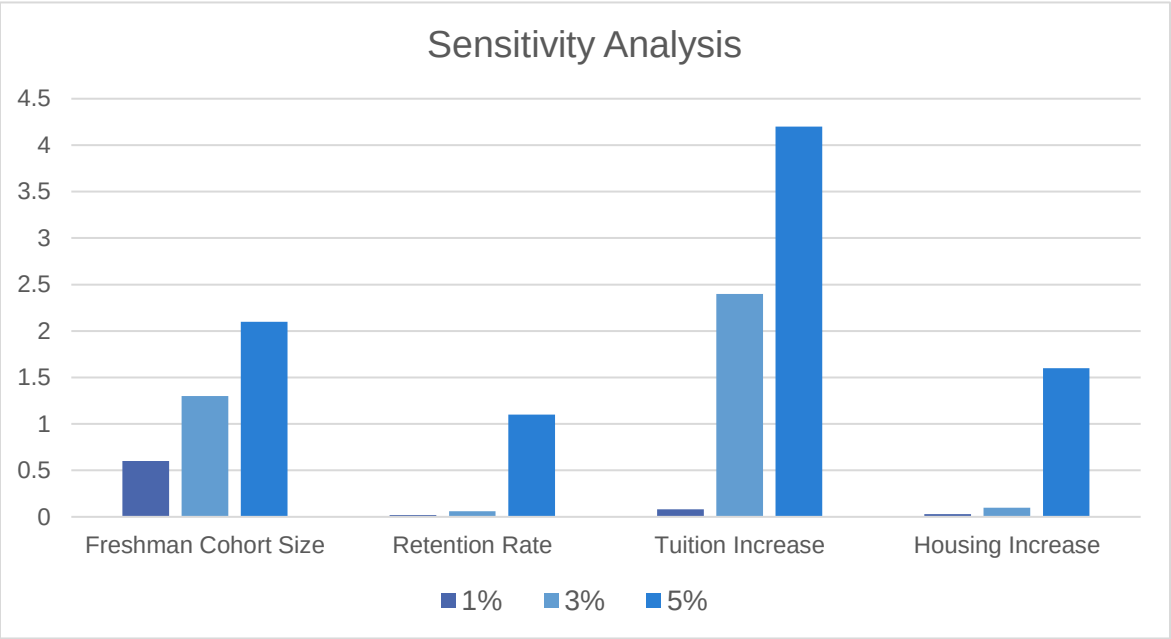

Figure 3. The bars represent the change in total annual revenue caused by a percentage change in the input variable listed. Tuition Increase would be considered to have the greatest influence on revenue.

Models can help university leaders understand which levers they can pull to steer the institution in the right direction.

From the examples above it is apparent that an enrollment and finance model can provide deep insight into the financial operation and effectiveness of an institution. They can provide multi-year budget projections (as a range of likely outcomes) and illustrate the timing of long-term changes or projects. Finally, models can help university leaders understand which levers they can pull to steer the institution in the right direction.