

GSBA 548 – Homework 10/24

Calculation of Nintendo Co. Ltd's Beta (using Python)

Nintendo Co. Ltd (7974) is a Japanese maker of video games and video game consoles. Nintendo is traded on the Tokyo Stock Exchange (XTKS) operated by the Japan Exchange Group, and so in calculating the company's beta we will consider the NIKKEI225 index's returns (the dominant index in Japan). For the stock, I looked at the prices of Nintendo ADR which is Nintendo Stock traded in the USA.

Method: I downloaded the data manually from different websites and wrote a Python script to sort the data and calculate Betas for a given year. The upside to spending an hour writing it, is that now I only need to feed in the stock price, market performance, and year to the program and I get the Beta instantly. This extends to any company, market, and time period.

Period: 2014

A period where Nintendo was struggling, with their recently released home console (Nintendo WiiU) not meeting sales expectations, leading to poor sales of games for that console. The Beta is calculated to be

$\beta = -0.4839$.

Period: 2016

The success of its 3DS and 2DS handheld consoles, and increasing sales of the underperforming Wii U thanks to popularity of some video game exclusives improved this period a little for Nintendo. The announcement of the newest console, the Nintendo Switch (which went on to become a best-seller) boosted the stock price near the end of the financial year too.

$\beta = 0.5064$

Period: 2017

Nintendo's latest launch, the Nintendo Switch was a resounding success, becoming one of the fastest selling video game consoles ever. Records were also set for video games sales produced by Nintendo exclusively for the Switch.

$\beta = 1.1901$

This is exactly the value on Yahoo! Finance for the year 2017, which validates my calculation.

The code for this project can be found at: <https://github.com/Demonikki/Beta-Coefficient-Calculator>

In conclusion, Nintendo has been the darling of investors over the past few years, completely exceeding expectations (atleast my own) and outperforming the market in recent years.

Sources:

Nintendo Historical Stock Price

<https://www.nasdaq.com/symbol/ntdoy/historical>

<https://www.marketwatch.com/investing/Stock/7974?countryCode=JP>

Nikkei 225 Historical Data

<https://fred.stlouisfed.org/series/NIKKEI225>

<https://www.marketwatch.com/investing/Index/NIK?countrycode=JP>