SONY®

**Investment Summary**

**Sony $SNE (ADS)**

Country: Japan
Sector: Technology
Industry: Technology Hardware, Storage & Peripherals
Market Cap: $88.7 Billion
Stock Price: $70.39
52 Week Range: $50.94 - $73.86
Year Foundation: 1946
EPS (TTM): $4.76
PE Ratio (TTM): 14.80

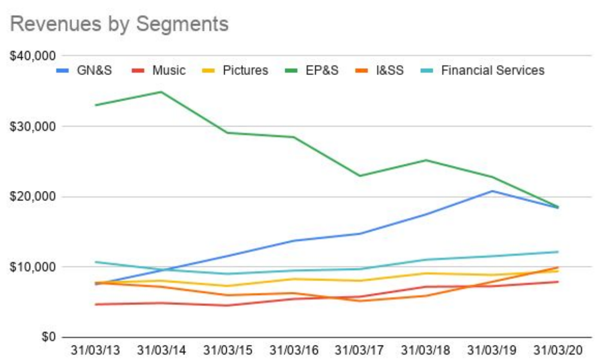
**Business Description and Investment Thesis**

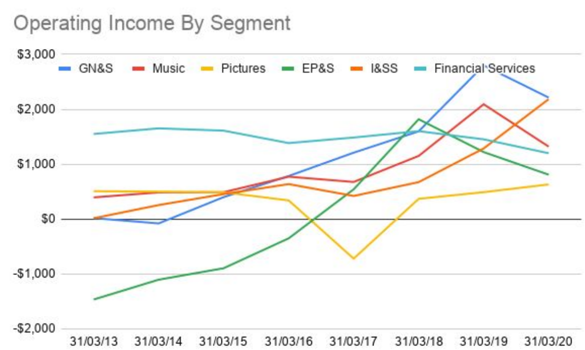
Sony is the 11th largest company by market cap in Japan. It is a diversified conglomerate with businesses in the gaming, consumer electronics, semiconductor, entertainment and financial industries.

The most successful product of Sony is in its Game and Network Services segment (G&NS), namely, the PlayStation, which is the best selling console in the world. Sony also owns one of the largest video gaming publishing businesses in the world. In its Electronic Products and Solutions (EP&S) segment, Sony makes mostly TVs, smartphones and cameras. Sony also operates an Imaging and Sensing Solutions (I&SS) business where it makes sensors, mostly used in smartphones. Sony is the largest Music Entertainment business in the world through Sony Music. Through Sony Entertainment, Sony operates one of the leading film producing companies in the world. The Financial services segment of Sony includes Sony Bank and insurance company, Sony Life.

In FY 2020 (ending in March 2020), Sony's most prolific segment was EP&S, where it generated 24.1% of its sales. 23.9% of sales were from G&NS with 13.6 million PlayStation 4 (PS4) sold worldwide. Most of the sales of Sony are in the United States (30%), followed by Japan (22.5%) and China (10%).

The main competitors of Sony in the gaming business includes console manufacturers Microsoft and Nintendo as well as gaming publishers such as Tencent Games and Activision Blizzard. In the EP&S business, the main competitors include Samsung, Apple, TCL, LG Electronics. As a Music Publishing company, Sony has to compete with Universal Music Group and Warner Music Group. Sony Entertainment competed with The Walt Disney Company and Universal Pictures. Most of the Financial Services of Sony are in Japan and consequently, it competes with Mitsubishi UFJ Financial Group and Mizuho Financial Group.
In the past, the main focus of Sony was in the EP&S business which accounted for 46% of the total revenues in 2013. Today, this segment accounts for only 24% of sales. Sony failed to compete with Apple and Samsung in the smartphone market and with other competitors in the TV and camera businesses. In 2020, Sony sold 9.3 million TVs, 2.9 million digital cameras and 3.2 million smartphones compared to 22.4 million, 24 million and 12.5 million respectively in 2010. The Music and Pictures businesses have been growing at reasonable rates of about 2% annually. As for the financial services business, sales have been growing in recent years but with the negative interest rates environment in Japan, margins went down and consequently profits. Most of the growth of Sony in recent years has been in the gaming business, not only from the consoles but also from the video game software. The I&SS is the fastest growing segment and according to the CEO, Kenichiro Yoshida, the company aims at engaging 80% of capital expenditures in this segment over the coming three years.




In November 2020, Sony is launching its new console, the PlayStation 5 (PS5). The last console was launched in 2013. Sales went down last year as gamers expected the new console. In 2013, sales increased by only 5% in this segment. The peak sales of PS4 was only reached in 2016. According to the CEO in the last conference call, sales of the gaming business is up also because of Covid-19 as many people spend more time playing video games.

The pandemic has also affected other businesses but in a negative way with the most affected business, being EP&S with disruption in the supply chain. The Music and Pictures businesses have also been affected as less music and movies will be produced this year and most cinemas are closed all around the world. The CEO sees at least a 30% drop in operating income for the FY 2021.

Another risk with the business is its dependence on the actions of the Bank of Japan, which is now buying equity through ETFs. The Balance sheet of the BOJ is now larger than the Japanese GDP and has a major impact on stock prices in Japan. Since Sony is also a bank and an insurance company, the low yield (and negative yield) environment can be detrimental to them.

The main thesis for a possible investment in Sony is that the PS5 is going to be a success and Sony will keep improving its efficiency. Esport is also gaining popularity. At the same time, Sony will move away from the EP&S business and focus on the more lucrative I&SS.

**Financial Analysis**

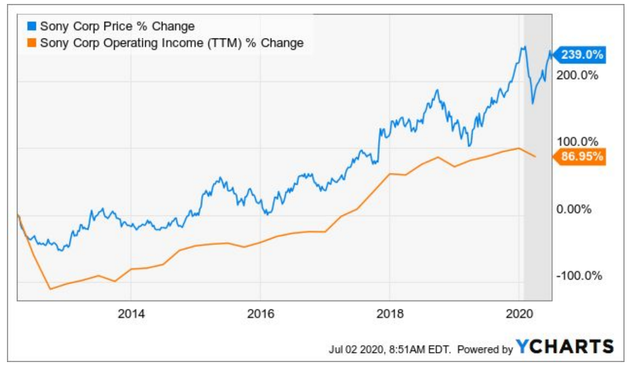
Since Sony is a Japanese net exporter, currency fluctuations affect the business. For example, in 2020, Sony recorded a drop of 4.7% in revenues compared to 2019 in Japanese Yen. This translated to a drop of only 1.6% in US Dollars. In this analysis, we are using US Dollars since we are looking at the ADS being traded on the NYSE.

Sony has considerably improved its performance over the past years. Sony lost money from 2009 till 2015 (except 2013). Only since 2016, the company is profitable again and since then, has been improving its margins. In the TTM, the operating margin is 10.1% with a profit margin of 7.05%. The highest operating margin was in the I&SS business at 22.0% (compared to 16.2% in 2019 and 11.4% in 2018). The G&NS segment had an operating margin of 12.0%. In this segment too margins have been improving in recent years as Sony focuses less on hardware and more on software. The Music and Pictures had operating margins of 16.7% and 6.7% respectively. As for the Financial Services, margins have been falling and they are still better than Mitsubishi and Mizuho. The ROA and ROE were also better than the competition at 0.7% and 6.5% respectively.

As far as the balance sheet is concerned, Sony has $213 billion in assets including $53 billion in current assets ($14.0 billion in cash and cash equivalents) and $17.2 billion in marketable securities. The liabilities of Sony amount to $169 billion including $57.7 billion in current liabilities with a total long-term debt of $13.7 billion. For this FY, Sony has $17.6 billion in contractual obligations. Most of the contractual obligations of Sony are linked to its insurance business, Sony Life with the majority due only after 2025.

The revenues last year were $76.2 billion with $7.67 billion in operating income and $8.37 billion in free cash flow. Over the past 8 years, revenues went down by 7% while operating income is up by 86%.

Sony has been increasing dividends since 2015 with a yield of 0.89% and a payout ratio of 8.5%. Sony recently started a buyback program but over the long-term, the number of shares have been increasing gradually at about 2% per year as the company uses its shares for acquisitions.


Sony has slightly underperformed the Vanguard Technology ETF while outperforming the Japanese ETF over the psat 8 years. The stock price of Sony has shown high correlation with the operating income of the company of the past years.

**Valuation**

We will need to look at the bear, base and bull cases for each business segment and calculate the bear, base and bear cases for the whole company. We are going to estimate the Operating EPS in 5 years.

The gaming business will be negligibly impacted by pandemic over the long-term. Let’s assume a growth rate of 15% for the first three years as the bull case and 10% for the bear case. Growth for the next 2 years will be 10% in both cases. We keep an operating profit margin of 12% throughout.

Pictures will be affected this year with a fall in revenues and operating income of 30% in the bull case and 50% in the bear case. The bear recovery will only start in the FY 2023 and will grow by 2% annually. The bull case is recovery in FY 2022 with 2% growth annually. We can expect a similar scenario with Music and Financials.

EP&S will keep declining. This year, they are going to lose money in this segment and are unlikely to reach profitability again anytime soon. In the bull case, for FY 2025, we can expect $500 million in operating income and in the bear case $0.

I&SS will keep growing at a fast rate but because of saturation of the smartphone market, the demand may not be as big as in the past and this is a very competitive space. We can estimate in the bear case a 20% growth in operating income and in the bull case a 30% growth.

In the bull case, we have a total operating income of $15.3 billion in 2025 while in the bear case, $11.7 billion with the base case as a mean.

With 1.22 billion shares outstanding, this is equivalent to Operating EPS of $9.59 for the bear case, $11.07 for the base case and $12.54 for the bull case.

Because of the correlation between stock price and operating income, we are going to use operating PE to value the company. The current Operating PE is 11.6. Over the past 5 years, operating PE of Sony ranged from 7.5 to 15. Looking at the operating PE of competitors is a little tricky because of the diversification of the business. The average operating PE of the following companies, Microsoft, Apple, Samsung, Activision and Disney is 28.2, with the operating PE of the S&P 500 at 20.6.

We will look at the following multiples: X7, X10, X15, X20 and X25.

| | | Operating PE Multiples | | | | |
|---|---|---|---|---|---|---|
| **Operating EPS in 2025** | | **X7** | **X10** | **X15** | **X20** | **X25** |
| **Bear** | **$ 9.59** | $ 67.13 | $ 95.90 | $ 143.85 | $ 191.80 | $ 239.75 |
| **Base** | **$ 11.07** | $ 77.49 | $ 110.70 | $ 166.05 | $ 221.40 | $ 276.75 |
| **Bull** | **$ 12.54** | $ 87.78 | $ 125.40 | $ 188.10 | $ 250.80 | $ 313.50 |
| **Returns** | | -4.63% | 57.27% | 135.90% | 214.53% | 345.38% |
| **CAGR** | | -0.94% | 9.48% | 18.73% | 25.76% | 34.82% |
| **Probability** | | 20% | 35% | 30% | 10% | 5% |
| **Expected CAGR** | 13.06% | -0.19 | 3.32 | 5.62 | 2.58 | 1.74 |

The expected CAGR is 13.0% with the bull case at 34.8% and the bear case at -0.94%.

### Conclusion

Sony is a fairly priced company compared to its competitors. The company is changing at a fast rate with now a focus on gaming and sensors. With 80% of the capital expenditures on sensors for the coming 3 years, this is a gamble. But as far the financial services, Pictures and Music businesses are here to provide the cash flow, it can be worth it. The EP&S is a drag on future successes of the company.

The most certain growth can be expected in the gaming business with the new PS5 as a very important catalyst. The company is improving its margins as it no longer relies solely on hardware.

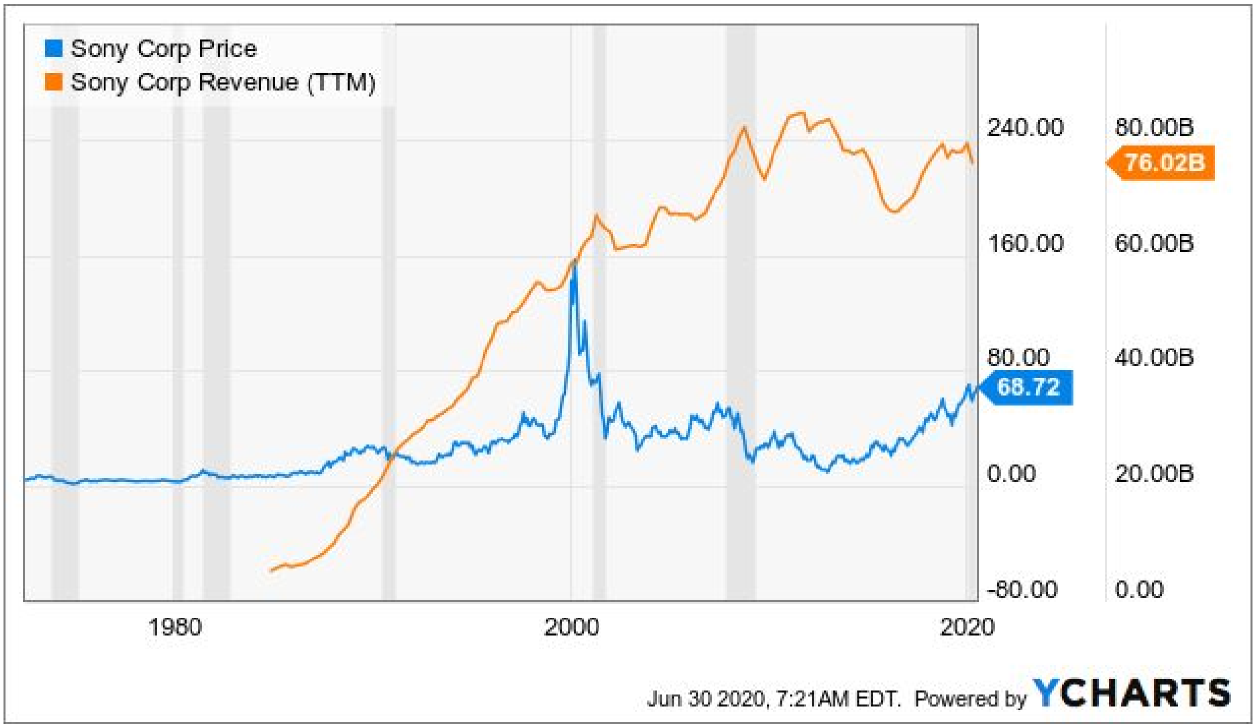
A large margin of safety is required for this investment because of currency fluctuations and the impact of the BOJ's actions on the business and stock price. Covid-19 is also an issue we need to consider and which will impact the Music and Pictures business.

## Research

This is an important year for Japanese tech giant Sony as the new PlayStation is being launched in November. The last PlayStation was launched in 2013 and we can see an increase in sales by more than 5% in 2014 but the company recorded a loss on the bottom line. In this analysis, we will need to find out why this was the case.

| NYSE:SNE Fiscal Period | Trend | Mar06 | Mar07 | Mar08 | Mar09 | Mar10 | Mar11 | Mar12 | Mar13 | Mar14 | Mar15 | Mar16 | Mar17 | Mar18 | Mar19 | Mar20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Revenue** | | **--** | **10.47%** | **24.46%** | **-10.28%** | **0.67%** | **10.60%** | **-10.48%** | **-8.93%** | **5.85%** | **-10.09%** | **5.18%** | **-6.19%** | **19.65%** | **-3.23%** | **-1.60%** |
| Cost of Goods Sold | | -- | 14.35% | 24.29% | 1.63% | -3.32% | 9.97% | -7.93% | -9.27% | 3.30% | -12.11% | 5.16% | -6.76% | 17.15% | -4.08% | -2.34% |
| **Gross Profit** | | **--** | **2.00%** | **24.86%** | **-39.31%** | **16.96%** | **12.74%** | **-18.88%** | **-7.64%** | **15.20%** | **-3.42%** | **5.22%** | **-4.46%** | **26.97%** | **-0.92%** | **0.32%** |
| Gross Margin % | | 31.41 | 29.00 | 29.10 | 19.69 | 22.87 | 23.31 | 21.13 | 21.42 | 23.32 | 25.05 | 25.06 | 25.52 | 27.08 | 27.72 | 28.27 |
| Selling, General, & Ad... | | -- | 17.13% | 11.57% | 1.26% | -1.16% | 8.01% | -9.34% | -7.77% | 9.81% | -10.92% | -0.43% | -10.98% | 11.94% | -4.97% | -1.63% |
| Other Operating Expe... | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| **Total Operating Expense** | | **--** | **17.13%** | **11.57%** | **1.26%** | **-1.16%** | **8.01%** | **-9.34%** | **-7.77%** | **9.81%** | **-10.92%** | **-0.43%** | **-10.98%** | **11.94%** | **-4.97%** | **-1.63%** |
| **Operating Income** | | **--** | **-25.78%** | **63.36%** | **-119.53%** | **168.87%** | **82.37%** | **-102.04%** | **55.81%** | **4342.11%** | **153.85%** | **46.77%** | **28.04%** | **79.12%** | **7.87%** | **4.04%** |
| Operating Margin % | | 11.08 | 7.45 | 9.77 | -2.13 | 1.46 | 2.40 | -0.05 | -0.03 | 1.06 | 3.00 | 4.18 | 5.71 | 8.55 | 9.53 | 10.08 |
| Interest Income | | -- | 13.15% | 41.08% | -32.94% | -36.40% | -0.69% | 27.08% | 26.78% | -29.74% | -34.36% | 2.80% | -8.18% | 85.15% | 4.28% | -8.21% |
| Interest Expense | | -- | -1.19% | -13.47% | 95.47% | 0.40% | -18.15% | 5.80% | -1.81% | 18.51% | 14.41% | -14.29% | 42.41% | 0.78% | 12.50% | 8.04% |
| Net Interest Income | | -- | -0.63% | -12.03% | 99.59% | -390.48% | -44.66% | 37.58% | 47.31% | -36.73% | -32.84% | -28.09% | 76.32% | 318.52% | 38.98% | -7.32% |
| Other Income (Expense) | | -85 | 200 | 2,175 | -87 | -758 | 549 | -845 | 2,622 | -488 | -1,627 | -193 | -1,589 | -354 | 1,591 | -380 |
| **Pre-Tax Income** | | **--** | **-64.36%** | **547.01%** | **-131.76%** | **116.61%** | **745.45%** | **-139.07%** | **360.35%** | **-90.13%** | **30.95%** | **716.97%** | **-17.36%** | **195.87%** | **38.08%** | **-18.42%** |
| Tax Provision | | -- | 69.44% | -339.13% | 136.78% | -120.73% | -3282.47% | 26.26% | 61.44% | 37.61% | 20.24% | -13.84% | -30.99% | -30.21% | 71.63% | -305.42% |
| Tax Rate % | | 61.65 | 52.81 | 35.88 | 41.58 | 51.87 | 207.47 | -391.48 | 58.00 | 367.44 | 223.35 | 31.13 | 49.30 | 21.71 | 4.46 | 22.16 |
| Net Income (Continuin... | | -- | 3.05% | 233.86% | -128.96% | 113.68% | -1987.41% | -78.66% | 122.25% | -162.72% | 39.52% | 556.27% | -39.15% | 356.73% | 68.49% | -33.54% |
| Other Income (Minori... | | -- | -180.00% | 1525.00% | -42.11% | -1896.97% | 18.89% | -44.70% | 8.76% | 8.35% | -9.79% | 14.24% | 12.23% | -10.81% | 15.20% | 17.70% |
| **Net Income** | | **--** | **2.18%** | **240.48%** | **-127.57%** | **55.49%** | **-606.44%** | **-73.58%** | **107.94%** | **-386.30%** | **16.59%** | **225.14%** | **-50.42%** | **613.10%** | **78.13%** | **-34.41%** |
| Net Margin % | | 1.65 | 1.52 | 4.16 | -1.28 | -0.57 | -3.61 | -7.01 | 0.61 | -1.65 | -1.53 | 1.82 | 0.96 | 5.74 | 10.57 | 7.05 |
| **EPS (Basic)** | | 1.05 | 1.08 | 3.66 | -1.01 | -0.45 | -3.17 | -5.50 | 0.44 | -1.22 | -0.94 | 1.06 | 0.51 | 3.66 | 6.51 | 4.38 |
| **EPS (Diluted)** | | 1.00 | 1.03 | 3.48 | -1.01 | -0.45 | -3.17 | -5.50 | 0.41 | -1.22 | -0.94 | 1.04 | 0.50 | 3.58 | 6.37 | 4.28 |

Another important thing to note is that the revenues of Sony peaked in 2011 and as for the stock price, it peaked in 2000 during the dotcom bubble.




Sony is the 11th largest company in Japan


With a rather low correlation with the rest of the Japanese market.

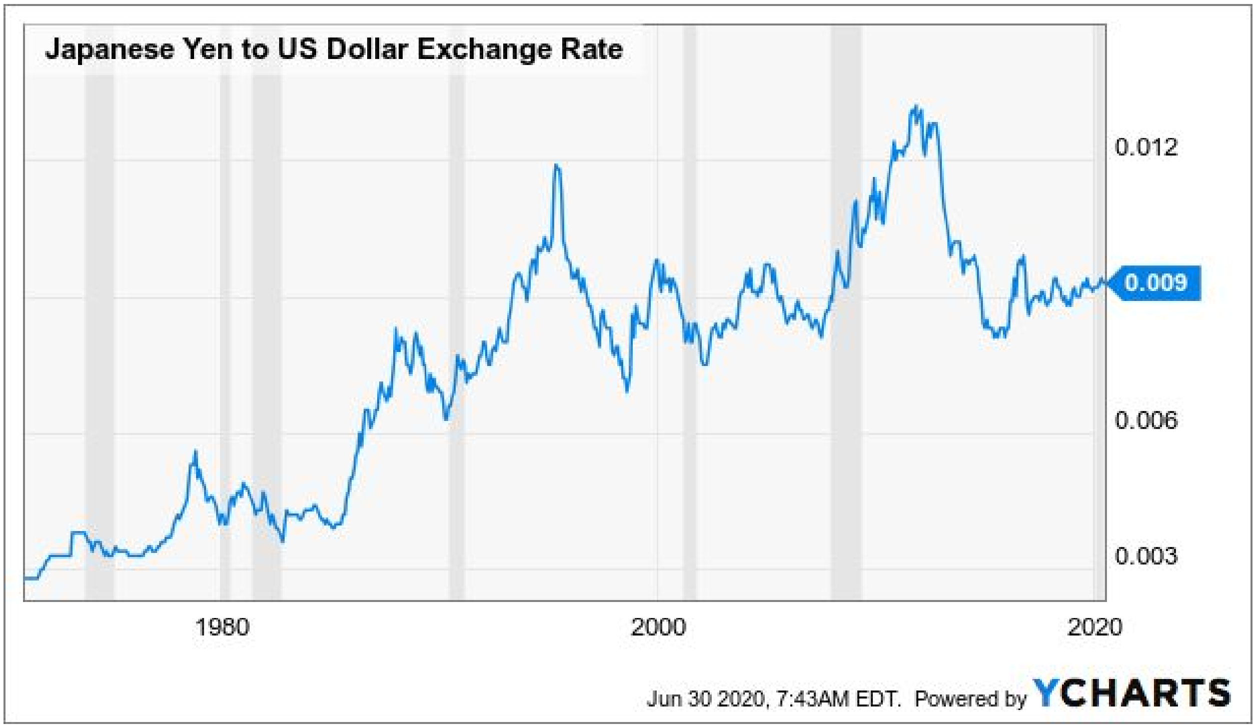
The current PE ratio in Japan is 18.9 with a CAPE ratio of 19.1. Sony has a lower than average PE ratio of 15.9 but a higher CAPE ratio of 95 since the company lost money in the last ten years.

Let's have a look at the last 20-F filing of Sony.

**A. Selected Financial Data**

| | Fiscal year ended March 31 | | | | |
|---|---|---|---|---|---|
| | 2016 | 2017 | 2018 | 2019 | **2020** |
| | (Yen in millions, yen per share amounts) | | | | |
| **Income statement data:** | | | | | |
| Sales and operating revenue | 8,105,712 | 7,603,250 | 8,543,982 | 8,665,687 | **8,259,885** |
| Equity in net income (loss) of affiliated companies | 2,238 | 3,563 | 8,569 | (2,999) | **9,637** |
| Operating income | 294,197 | 288,702 | 734,860 | 894,235 | **845,459** |
| Income before income taxes | 304,504 | 251,619 | 699,049 | 1,011,648 | **799,450** |
| Income taxes | 94,789 | 124,058 | 151,770 | 45,098 | **177,190** |
| Net income attributable to Sony Corporation's stockholders | 147,791 | 73,289 | 490,794 | 916,271 | **582,191** |
| Comprehensive income (loss) | (44,915) | 143,652 | 553,220 | 995,542 | **666,032** |
| **Data per share of Common Stock:** | | | | | |
| Net income attributable to Sony Corporation's stockholders* | | | | | |
| — Basic | 119.40 | 58.07 | 388.32 | 723.41 | **471.64** |
| — Diluted | 117.49 | 56.89 | 379.75 | 707.74 | **461.23** |
| Cash dividends declared Interim | 10.00 | 10.00 | 12.50 | 15.00 | **20.00** |
| | (8.09 cents) | (8.79 cents) | (11.11 cents) | (13.18 cents) | **(18.38 cents)** |
| Cash dividends declared Fiscal year-end | 10.00 | 10.00 | 15.00 | 20.00 | **25.00** |
| | (9.01 cents) | (9.13 cents) | (13.75 cents) | (18.28 cents) | **(22.76 cents)** |
| **Balance sheet data:** | | | | | |
| Sony Corporation's stockholders' equity | 2,463,340 | 2,497,246 | 2,967,366 | 3,746,377 | **4,125,306** |
| Common stock | 858,867 | 860,645 | 865,678 | 874,291 | **880,214** |
| Net assets | 3,124,410 | 3,135,422 | 3,647,157 | 4,436,690 | **4,789,535** |
| Total assets** | 16,673,390 | 17,660,556 | 19,065,538 | 20,981,586 | **23,039,343** |
| Number of shares issued at fiscal year-end (thousands of shares of common stock) | 1,262,494 | 1,263,764 | 1,266,552 | 1,271,230 | **1,261,059** |
| Sony Corporation's stockholders' equity per share of common stock | 1,952.79 | 1,977.72 | 2,344.96 | 2,995.31 | **3,380.96** |

Before we go any further in this analysis, we will need to address the Japanese Yen - USD exchange rate.




In general, the Japanese Yen strengthened in relation to the USD in the last 30 years but since 2012, there has been a decline of about 30%. As we know, Japan had zero interest rates for years and the Bank of Japan has been printing a lot of money in recent years. The devaluation of the Yen is set to continue.

This is important because sales in JPY increased by 1.9% in the last 5 years but by 6.9% in USD.

Sony has a primary listing in Tokyo and, therefore, this will have an effect on the stock price as well.

Effects of Covid-19 on business:
- Supply Chain affected for Gaming
- Music segment affected with lockdown
- Box office segment affected

Today, Sony is a conglomerate with the following segments:
1. Game and Network Services (G&NS)
2. Music
3. Pictures
4. Electronic Products and Solutions (EP&S)
5. Imaging and Sensing Solutions (I&SS)
6. Financial Services

***Sales to External Customers by Geographic Area***

The following table shows Sony's consolidated sales to external customers in each of its major markets for the periods indicated.

| | Fiscal year ended March 31 | | |
|---|---|---|---|
| | 2018 | 2019 | **2020** |
| | (Yen in millions) | | |
| Japan | 2,625,619 | 2,591,784 | **2,472,479** |
| United States | 1,835,705 | 1,982,135 | **1,864,390** |
| Europe | 1,841,457 | 1,862,166 | **1,697,791** |
| China | 674,718 | 770,416 | **845,235** |
| Asia-Pacific | 1,024,179 | 912,193 | **892,026** |
| Other Areas | 542,304 | 546,993 | **487,964** |
| Total | 8,543,982 | 8,665,687 | **8,259,885** |

In 2020, 30% of sales were in Japan with the US being the second largest market with 22.5% of sales. In the last three years, only China has shown an increase in sales and today, China accounts for only 10% of the total sales.

Let's have a look at the performance of each of the business segments:

**Game & Network Services (G&NS)**

**Key Financial Figures**

| | Fiscal year ended March 31 | |
|---|---|---|
| | 2019 | **2020** |
| | (Yen in millions) | |
| Sales to external customers by product category | | |
| *Digital Software and Add-on Content* | 1,102,231 | **1,010,296** |
| *Network Services* | 326,524 | **337,265** |
| *Hardware & Others* | 795,867 | **572,199** |
| Sales to external customers | 2,224,622 | **1,919,760** |
| Intersegment sales | 86,250 | **57,791** |
| G&NS segment total sales | 2,310,872 | **1,977,551** |
| G&NS segment operating income | 311,092 | **238,400** |
| | (Units in millions) | |
| Major product unit sales | | |
| PS4 hardware | 17.8 | **13.6** |

G&NS accounted for 12.2% of the total sales which has been in decline compared to 2019. We can see a massive fall in the number of PS4 sold as it is expected with the new consoles only coming this November.

This segment had an operating profit margin of 12%.

We need to have a look at the performance of this segment in 2014, when the PS4 was launched.

## *Game*

| | (Billions of yen, millions of U.S. dollars) | | | |
|---|---|---|---|---|
| | Fiscal year ended March 31 | | | |
| | 2013 | **2014** | Change in yen | **2014** |
| Sales and operating revenue | ¥707.1 | **¥979.2** | +38.5 % | **$9,507** |
| Operating income (loss) | 1.7 | **(8.1)** | - | **(78)** |

**Sales** increased 38.5% year-on-year (a 16% increase on a constant currency basis) to 979.2 billion yen (9,507 million U.S. dollars). This significant increase was primarily due to the launch of the PS4 as well as the favorable impact of foreign exchange rates. PlayStation®3 ("PS3") hardware unit sales decreased, although PS3 software sales increased.

**Operating loss** of 8.1 billion yen (78 million U.S. dollars) was recorded, compared to operating income of 1.7 billion yen in the previous fiscal year. This year-on-year deterioration was primarily due to an increase in costs related to the launch of the PS4 as well as the recording of a 6.2 billion yen (60 million U.S. dollars) write-off of certain PC game software titles sold by Sony Online Entertainment LLC, partially offset by the above-mentioned increase in sales.

In 2015, this segment was already profitable

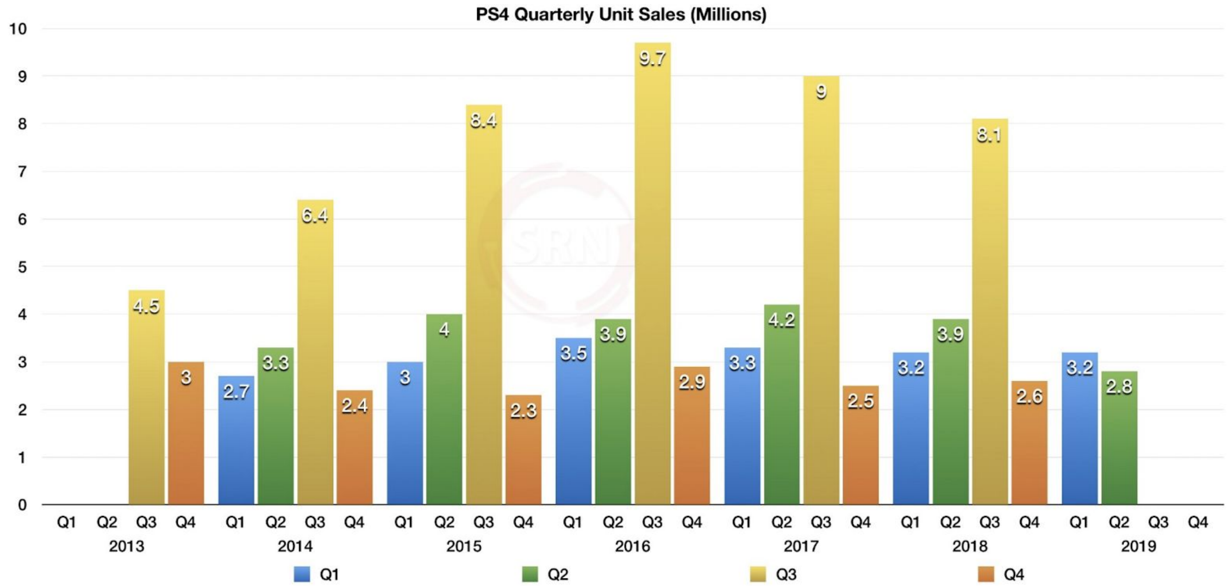
## *Game & Network Services (G&NS)*

| | (Billions of yen, millions of U.S. dollars) | | | |
|---|---|---|---|---|
| | Fiscal Year ended March 31 | | | |
| | 2014 | **2015** | Change in yen | **2015** |
| Sales and operating revenue | ¥1,043.9 | **¥1,388.0** | +33.0% | **$11,567** |
| Operating income (loss) | (18.8) | **48.1** | - | **401** |

**Sales** increased 33.0% year-on-year (a 25% increase on a constant currency basis) to 1,388.0 billion yen (11,567 million U.S. dollars). This significant increase was primarily due to an increase in PS4 hardware unit sales, a significant increase in network services revenue, the impact of foreign exchange rates and an increase in PS4 software sales, partially offset by a decrease in PlayStation®3 ("PS3") hardware and PS3 software sales.

**Operating income** of 48.1 billion yen (401 million U.S. dollars) was recorded, compared to an operating loss of 18.8 billion yen in the previous fiscal year. This significant improvement was primarily due to the impact of the above-mentioned increase in sales, partially offset by the impact of the decrease in PS3 software sales, the unfavorable impact of the appreciation of the U.S. dollar reflecting the high ratio of U.S. dollar-denominated costs, as well as the recording of an 11.2 billion yen (93 million U.S dollars) write-down of PS Vita and PS TV components in the current fiscal year. In the previous fiscal year, a 6.2 billion yen write-off of certain PC software titles was recorded.

Sales of PS4 peaked in 2016




This segment has been very important for the growth of the company but it was mostly because of the gains from sales of video games rather than the hardware from 2017 onwards. Last year was not good for this segment since gamers are now awaiting the new PlayStation.

Let's look at the Music segment

**Music**

**Key Financial Figures**

| | Fiscal year ended March 31 | |
|---|---|---|
| | 2019 | **2020** |
| | (Yen in millions) | |
| Sales to external customers by product category | | |
| *Recorded Music — Streaming* | 227,513 | **276,039** |
| *Recorded Music — Others* | 199,413 | **191,114** |
| *Music Publishing* | 106,666 | **157,478** |
| *Visual Media & Platform* | 261,433 | **213,961** |
| Sales to external customers | 795,025 | **838,592** |
| Intersegment sales | 12,464 | **11,317** |
| Music segment total sales | 807,489 | **849,909** |
| Music segment operating income | 232,487 | **142,345** |

This segment is growing at a slower rate than the Gaming segment but it has shown some good margins in recent years with an operating profit margin of 17% last year. The operating income for 2020 was lower than that of 2019 because of accounting rules. Actually, it was the 2019 operating income which was unusually high because of an acquisition.

Operating income decreased 90.1 billion yen year-on-year to 142.3 billion yen. This significant decrease in operating income was primarily due to the absence of the recording of a 116.9 billion yen remeasurement gain resulting from the consolidation of EMI in the previous fiscal year, partially offset by the absence of the 11.6 billion yen recording of equity in net loss resulting from Sony's acquisition of the remaining approximately 60% equity interest in EMI in the previous fiscal year, as well as the impact of the above-mentioned increase in sales.

The music segment will be affected by the pandemic as it will be harder for artists to record new music.

Let's look at the Pictures segment next

**Pictures**

**Key Financial Figures**

| | Fiscal year ended March 31 | |
|---|---|---|
| | 2019 | **2020** |
| | (Yen in millions) | |
| Sales to external customers by product category | | |
| *Motion Pictures* | 436,017 | **475,061** |
| *Television Productions* | 288,816 | **301,224** |
| *Media Networks* | 260,437 | **234,429** |
| Sales to external customers | 985,270 | **1,010,714** |
| Intersegment sales | 1,603 | **1,140** |
| Pictures segment total sales | 986,873 | **1,011,854** |
| Pictures segment operating income | 54,599 | **68,157** |

This segment is a direct competitor to Disney and now to Netflix. Growth has been slow in the past years and they have low margins. This segment will be affected by the pandemic as movie theatres are closed and the production of new movies have halted.

Unfortunately, it has been hard for Sony to compete with Disney and it is getting even harder.

The next segment is EP&S

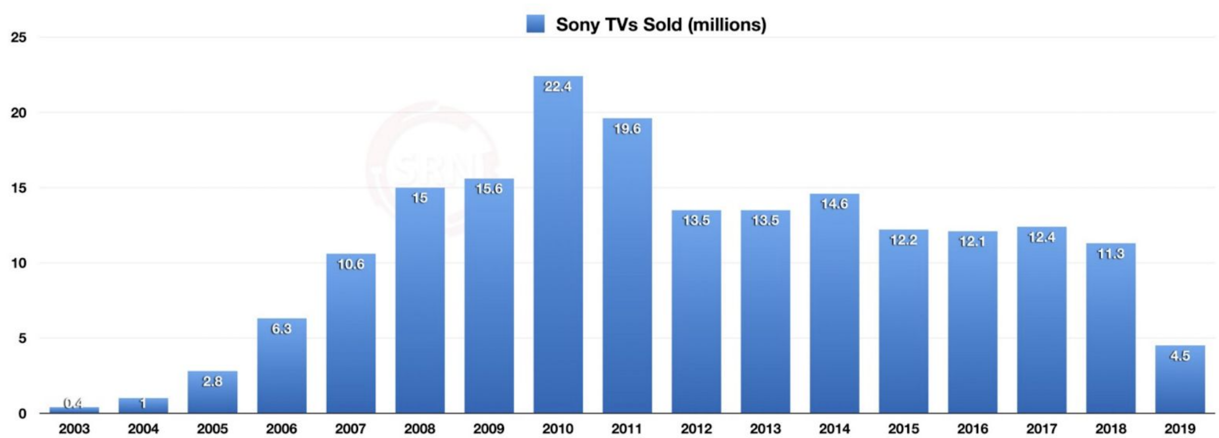
**Electronics Products & Solutions (EP&S)**

**Key Financial Figures**

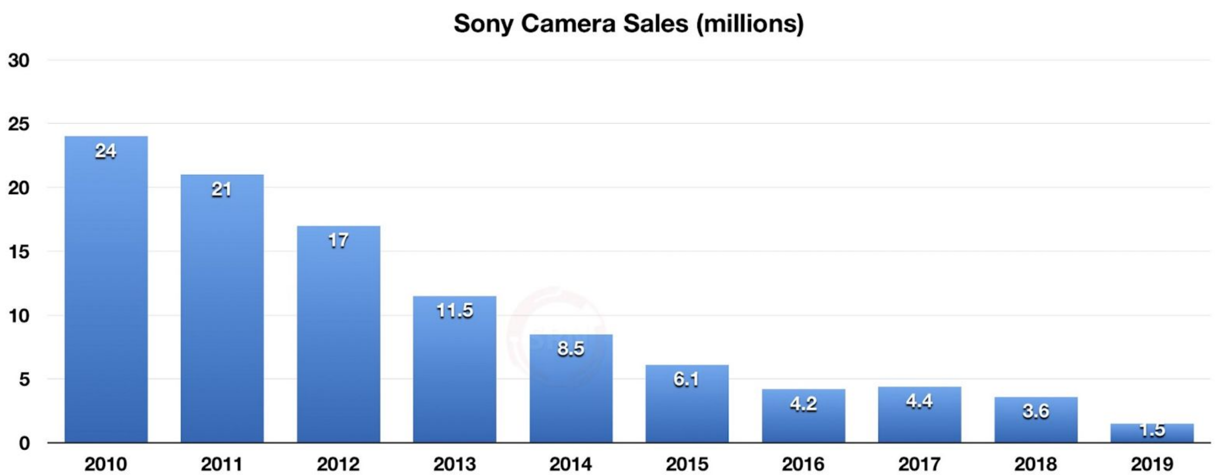
| | Fiscal year ended March 31 2019 | 2020 |
|---|---|---|
| | (Yen in millions) | |
| Sales to external customers by product category | | |
| *TVs* | 788,423 | **646,513** |
| *Audio & Video* | 362,580 | **346,060** |
| *Still and Video Cameras* | 421,506 | **384,142** |
| *Mobile Communications* | 487,330 | **362,144** |
| *Other* | 243,328 | **231,021** |
| Sales to external customers | 2,303,167 | **1,969,880** |
| Intersegment sales | 17,461 | **21,388** |
| EP&S segment total sales | 2,320,628 | **1,991,268** |
| EP&S segment operating income | 76,508 | **87,276** |
| | (Units in millions) | |
| Major product unit sales | | |
| TVs | 11.3 | **9.3** |
| Digital cameras within *Still and Video Cameras** | 3.6 | **2.9** |
| Smartphones within *Mobile Communications* | 6.5 | **3.2** |

This segment has been in decline over the past years with increasing competition. In the past, it used to be 3 separate segments but they were later merged as the numbers were not looking good at all. We can already see the sharp decline in TV and other devices sales from 2019 to 2020.

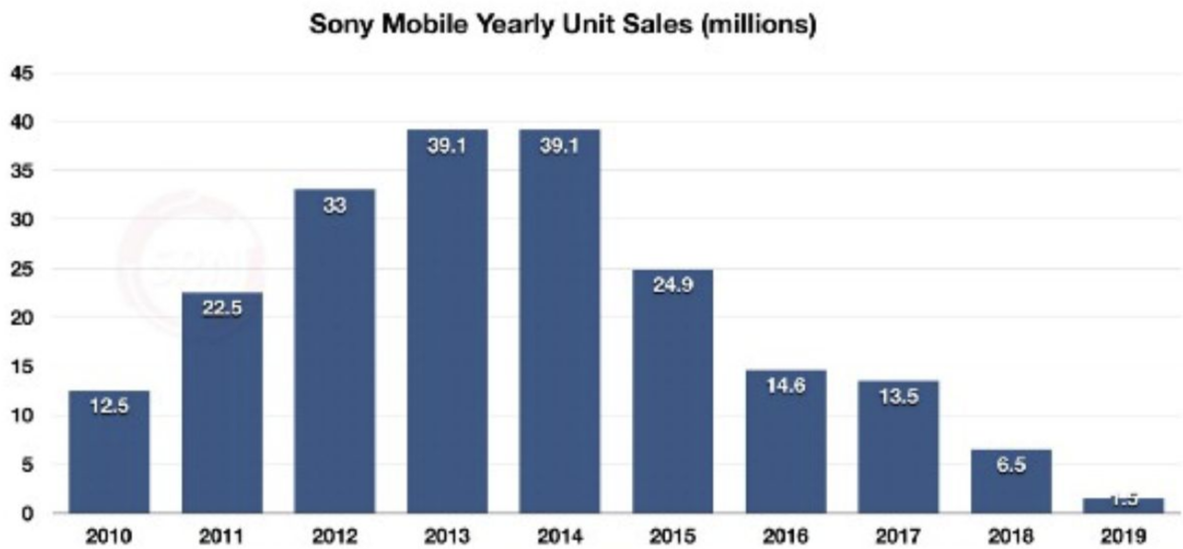
The following charts show the decline of this segment

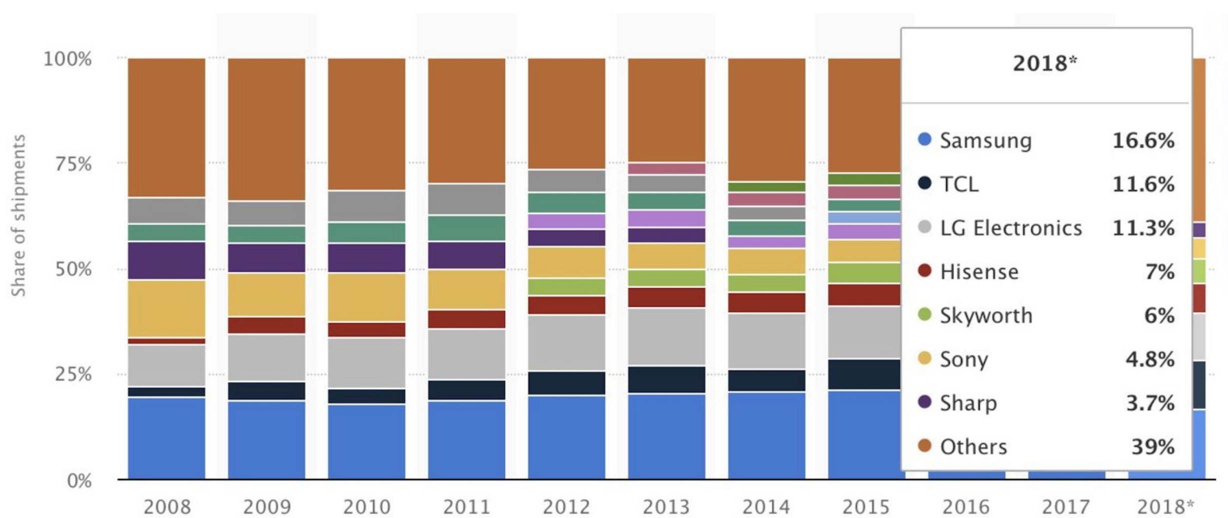



Sony will likely sell around 10 million sets in FY2019.




Total sales for the fiscal year will likely be around 3 million.



As far as the financials of this segment is considered, things are not looking good. The revenues and profits are both in decline.

This is also a segment with low profit margins at about 4%.

**Imaging & Sensing Solutions (I&SS)**

**Key Financial Figures**

| | Fiscal year ended March 31 | |
|---|---|---|
| | 2019 | **2020** |
| | (Yen in millions) | |
| Sales to external customers | 770,622 | **985,259** |
| Intersegment sales | 108,708 | **85,317** |
| I&SS segment total sales | 879,330 | **1,070,576** |
| I&SS segment operating income | 143,874 | **235,584** |

The I&SS segment is also growing and has the highest profit margin at more than 20%.

Sony also gives us some information about the origin of their products and where these products are sold.

***Manufacturing by Geographic Area***

The following tables set forth the G&NS, EP&S and I&SS segments' total production breakdown of in-house and outsourced production, and the breakdown of in-house production by geographic regions.

**Total production breakdown of in-house and outsourced production***

| | Fiscal year ended March 31 | |
|---|---|---|
| | 2019 | **2020** |
| In-house production | 64% | **73%** |
| Outsourced production | 36% | **27%** |
| Total | 100% | **100%** |

**Breakdown of in-house production by geographic regions***

Figures in parentheses indicate the percentage of products that were exported from each geographic region to other regions.

| | Fiscal year ended March 31 | |
|---|---|---|
| | 2019 | **2020** |
| Japan | 47% (89%) | **63% (92%)** |
| China | 19% (55%) | **12% (60%)** |
| Asia-Pacific (other than Japan and China) | 31% (72%) | **24% (66%)** |
| Americas and Europe | 3% (less than 5%) | **1% (20%)** |
| Total | 100% | **100%** |

Since most of their products are made in Japan and then exported overseas, a weak Japanese Yen will be a good thing for them.

Finally, let's look at the financial services segment

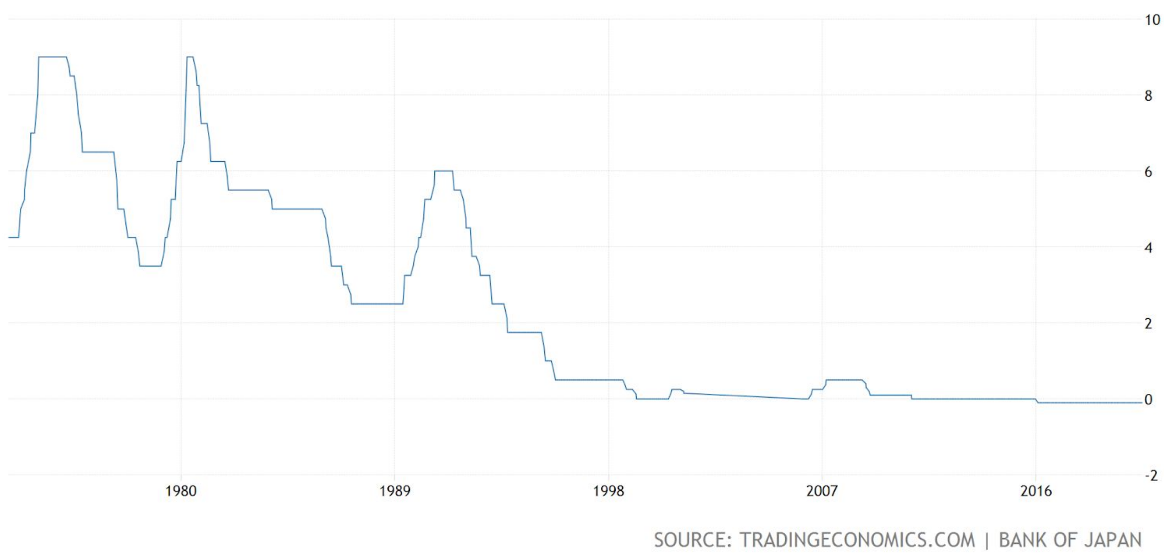
**Key Financial Figures**

| | Fiscal year ended March 31 | |
|---|---|---|
| | 2019 | **2020** |
| | (Yen in millions) | |
| Financial services revenue | 1,282,539 | **1,307,748** |
| Financial Services segment operating income | 161,477 | **129,597** |

Sony operates insurance and banking businesses.

The operating margin of the combined businesses are nearly 10% and these businesses are growing in recent years but with lower profits.

The banking and insurance industry is ricky in Japan with the negative rate policy of the BOJ.



| Financial Services segment | Fiscal year ended March 31 | |
|---|---|---|
| | 2019 | **2020** |
| | (Yen in millions) | |
| Financial services revenue | 1,282,539 | **1,307,748** |
| Financial services expenses | 1,120,276 | **1,179,776** |
| Other operating (income) expenses, net | 104 | **(1,729)** |
| | 1,120,380 | **1,178,047** |
| Equity in net loss of affiliated companies | (682) | **(104)** |
| **Operating income** | 161,477 | **129,597** |
| Other income (expenses), net | (73) | **(20)** |
| **Income before income taxes** | 161,404 | **129,577** |
| Income taxes | 44,763 | **36,311** |
| **Net income** | 116,641 | **93,266** |
| Less — Net income attributable to noncontrolling interests | 235 | **483** |
| **Net income of Financial Services** | 116,406 | **92,783** |

| Sony without Financial Services segment | Fiscal year ended March 31 | |
|---|---|---|
| | 2019 | **2020** |
| | (Yen in millions) | |
| Net sales and operating revenue | 7,396,401 | **6,965,971** |
| Costs of sales | 5,160,284 | **4,764,014** |
| Selling, general and administrative | 1,572,714 | **1,497,764** |
| Other operating (income) expense, net | (71,672) | **(3,841)** |
| | 6,661,326 | **6,257,937** |
| Equity in net income (loss) of affiliated companies | (2,317) | **9,741** |
| **Operating income** | 732,758 | **717,775** |
| Other income (expenses), net | 133,929 | **(28,299)** |
| **Income before income taxes** | 866,687 | **689,476** |
| Income taxes | 335 | **141,552** |
| **Net income** | 866,352 | **547,924** |
| Less — Net income attributable to noncontrolling interests | 8,778 | **7,092** |
| **Net income of Sony without Financial Services** | 857,574 | **540,832** |

| **Consolidated** | Fiscal year ended March 31 2019 | **2020** |
|---|---|---|
| | (Yen in millions) | |
| Financial services revenue | 1,274,708 | **1,299,847** |
| Net sales and operating revenue | 7,390,979 | **6,960,038** |
| | 8,665,687 | **8,259,885** |
| Costs of sales | 5,150,750 | **4,753,174** |
| Selling, general and administrative | 1,576,825 | **1,502,625** |
| Financial services expenses | 1,112,446 | **1,171,875** |
| Other operating (income) expenses, net | (71,568) | **(3,611)** |
| | 7,768,453 | **7,424,063** |
| Equity in net income (loss) of affiliated companies | (2,999) | **9,637** |
| **Operating income** | 894,235 | **845,459** |
| Other income (expenses), net | 117,413 | **(46,009)** |
| **Income before income taxes** | 1,011,648 | **799,450** |
| Income taxes | 45,098 | **177,190** |
| **Net income** | 966,550 | **622,260** |
| Less — Net income attributable to noncontrolling interests | 50,279 | **40,069** |
| **Net income attributable to Sony Corporation's Stockholders** | 916,271 | **582,191** |

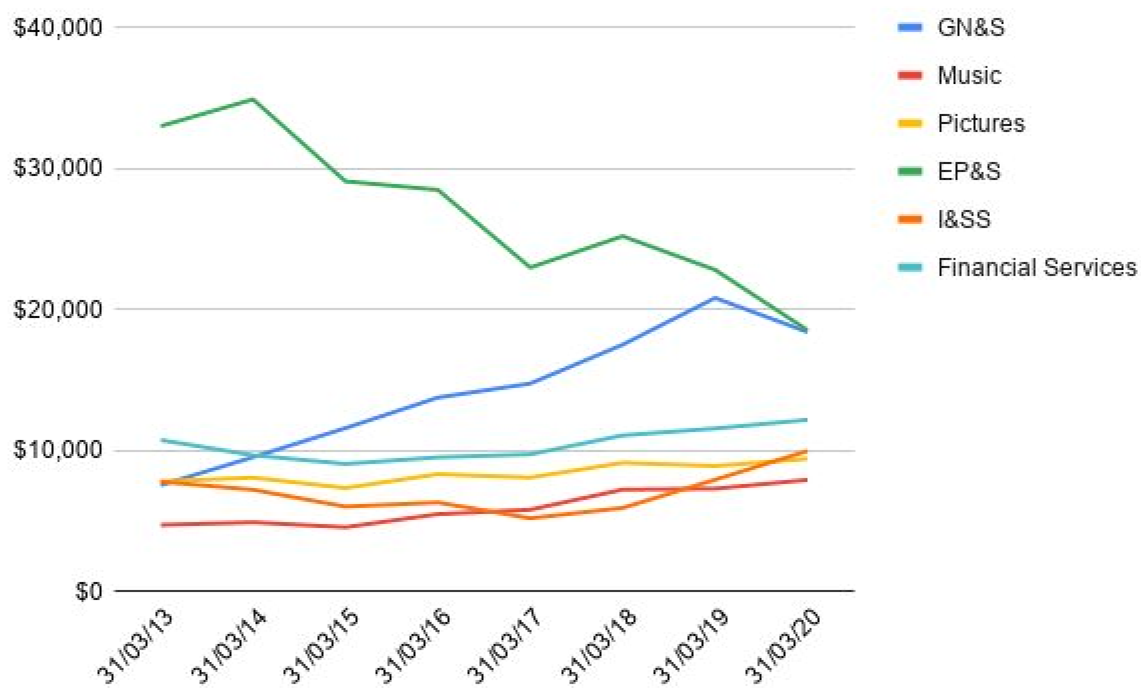
With or without the financial services segment, the performance of Sony in 2020 was worse than in 2019

Let's summarize the results of all the business segments over the past 8 years

| Sales in M USD | 31/03/13 | 31/03/14 | 31/03/15 | 31/03/16 | 31/03/17 | 31/03/18 | 31/03/19 | 31/03/20 |
|---|---|---|---|---|---|---|---|---|
| GN&S | $7,522 | $9,507 | $11,567 | $13,734 | $14,730 | $17,487 | $20,798 | $18,386 |
| Music | $4,699 | $4,886 | $4,538 | $5,466 | $5,783 | $7,208 | $7,275 | $7,896 |
| Pictures | $7,795 | $8,054 | $7,322 | $8,302 | $8,064 | $9,110 | $8,882 | $9,393 |
| EP&S | $32,985 | $34,882 | $29,070 | $28,466 | $22,958 | $25,179 | $22,794 | $18,516 |
| I&SS | $7,770 | $7,196 | $6,000 | $6,294 | $5,175 | $5,909 | $7,911 | $9,951 |
| Financial Services | $10,721 | $9,645 | $9,030 | $9,496 | $9,710 | $11,052 | $11,543 | $12,155 |

| operating profits in M US | 31/03/13 | 31/03/14 | 31/03/15 | 31/03/16 | 31/03/17 | 31/03/18 | 31/03/19 | 31/03/20 |
|---|---|---|---|---|---|---|---|---|
| GN&S | $18 | -$78 | $401 | $785 | $1,210 | $1,599 | $2,799 | $2,213 |
| Music | $396 | $487 | $491 | $773 | $677 | $1,151 | $2,092 | $1,320 |
| Pictures | $509 | $501 | $488 | $341 | -$719 | $370 | $491 | $632 |
| EP&S | -$1,464 | -$1,103 | -$894 | -$350 | $543 | $1,819 | $1,221 | $809 |
| I&SS | $15 | $256 | $456 | $638 | $422 | $674 | $1,287 | $2,185 |
| Financial Services | $1,551 | $1,653 | $1,611 | $1,385 | $1,486 | $1,602 | $1,453 | $1,200 |

| operating Margins | 31/03/13 | 31/03/14 | 31/03/15 | 31/03/16 | 31/03/17 | 31/03/18 | 31/03/19 | 31/03/20 | Average |
|---|---|---|---|---|---|---|---|---|---|
| GN&S | 0.24% | -0.82% | 3.47% | 5.72% | 8.21% | 9.14% | 13.46% | 12.04% | 6.43% |
| Music | 8.43% | 9.97% | 10.82% | 14.14% | 11.71% | 15.97% | 28.76% | 16.72% | 14.56% |
| Pictures | 6.53% | 6.22% | 6.66% | 4.11% | -8.92% | 4.06% | 5.53% | 6.73% | 3.87% |
| EP&S | -4.44% | -3.16% | -3.08% | -1.23% | 2.37% | 7.22% | 5.36% | 4.37% | 0.93% |
| I&SS | 0.19% | 3.56% | 7.60% | 10.14% | 8.15% | 11.41% | 16.27% | 21.96% | 9.91% |
| Financial Services | 14.47% | 17.14% | 17.84% | 14.59% | 15.30% | 14.50% | 12.59% | 9.87% | 14.54% |





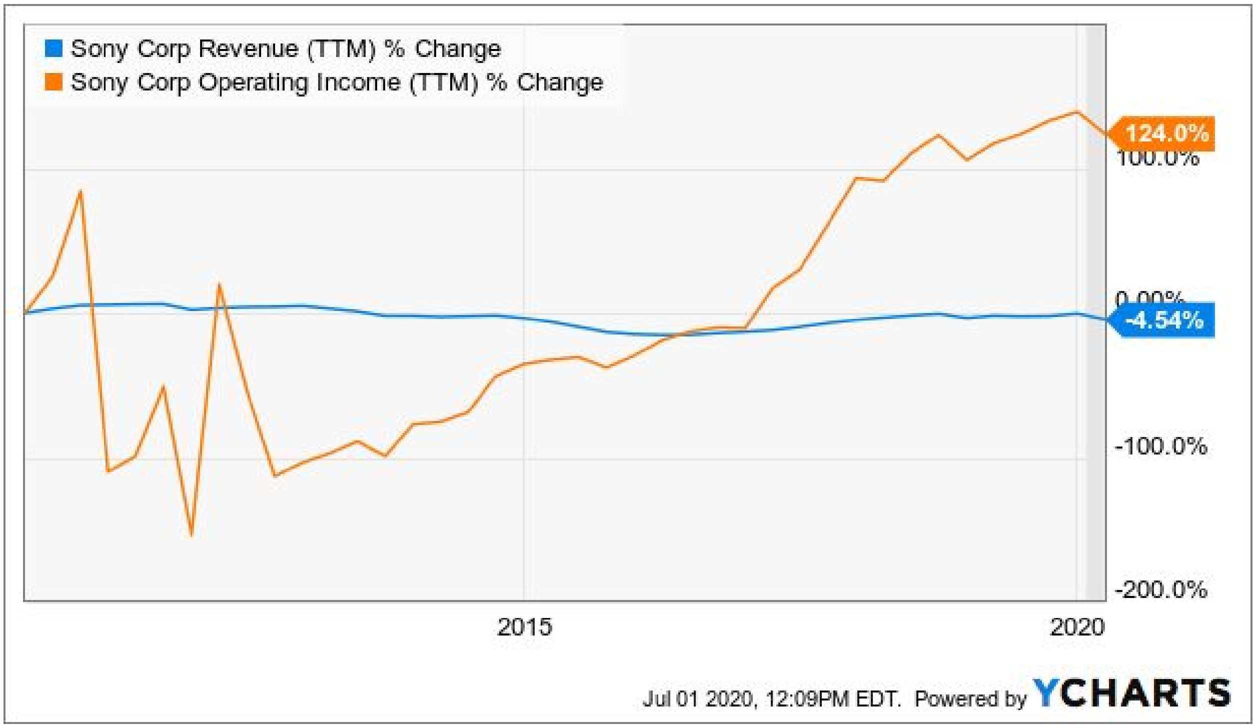
We can see a rise in the revenues of the financial services sector but with lower profit margins and consequently profits. We can blame the policies of the BOJ on that. The revenues of this segment grew by 1.8% per year.

EP&S used to be the largest segment by revenues but has been in decline lately.

Music and Pictures are slightly growing.

Sony is deriving a large part of their profits from I&SS.

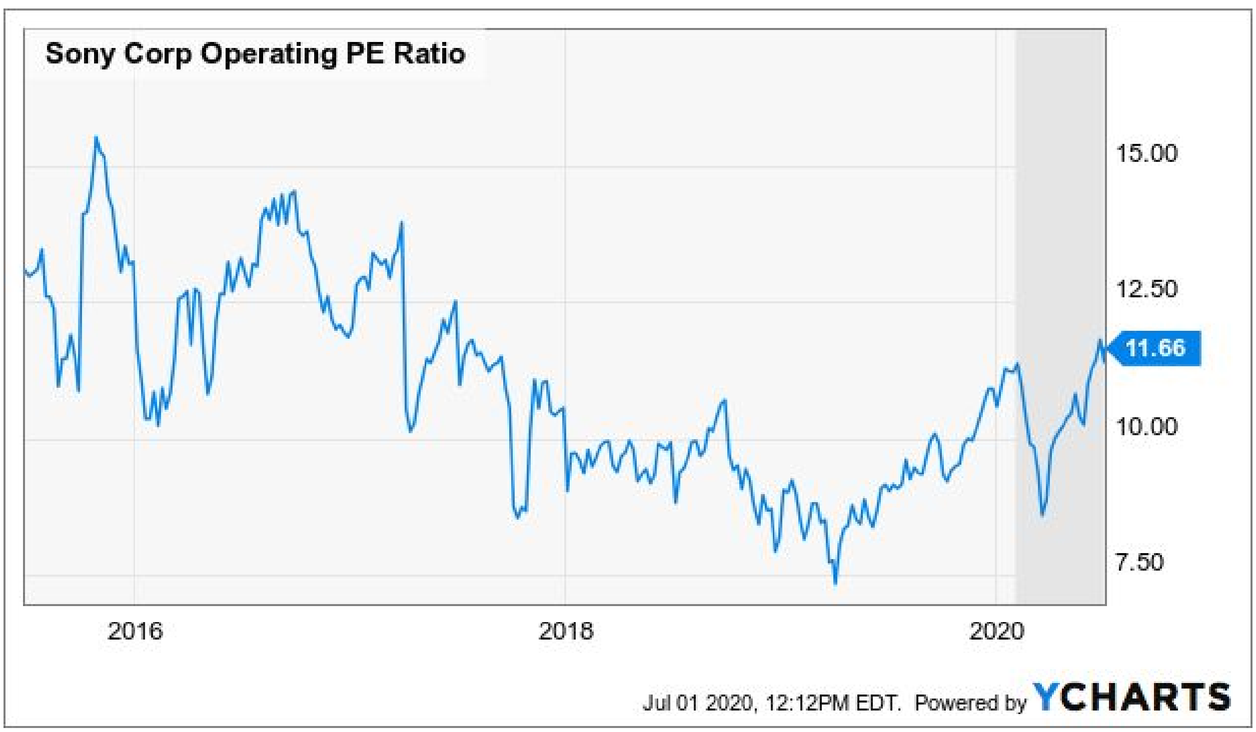
The most prolific segment is of course, the gaming one with a rapid increase both in revenues and operating income in recent years.




Overall, the revenues of the company has been fairly constant over the past years with an increase in operating income.


There is a clear correlation between the operating income of the company and the stock price.

Therefore, the operating PE ratio is a very important valuation metric that we are going to use.

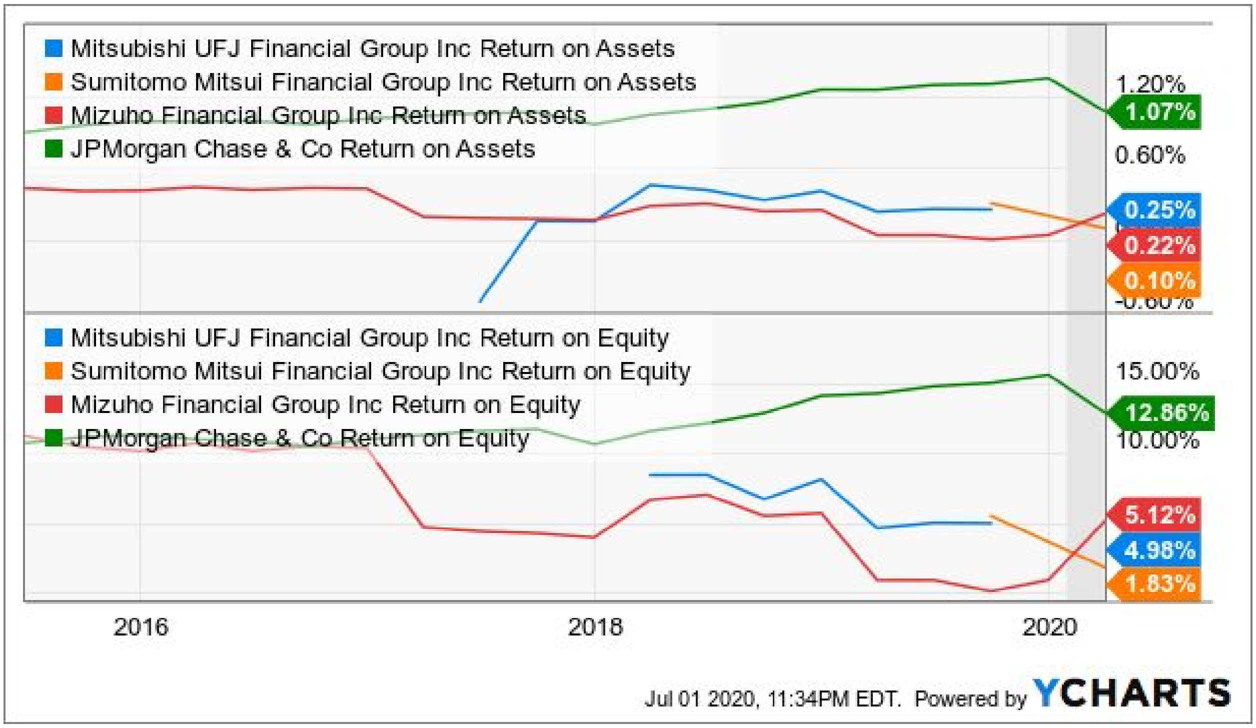


Let’s have a look at the balance sheet. We need to look at the financial services segment and the non-financial segments separately.

| | Financial Services | | Sony without Financial Services | | Consolidated | |
|---|---|---|---|---|---|---|
| | March 31 2019 | **March 31 2020** | March 31 2019 | **March 31 2020** | March 31 2019 | **March 31 2020** |
| | | | (Yen in millions) | | | |
| **Assets** | | | | | | |
| Current assets: | | | | | | |
| Cash and cash equivalents (*1) | 509,595 | **550,039** | 960,478 | **962,318** | 1,470,073 | **1,512,357** |
| Marketable securities (*2) | 1,324,538 | **1,847,772** | — | **—** | 1,324,538 | **1,847,772** |
| Notes and accounts receivable, trade and contract assets | 16,479 | **10,532** | 1,055,669 | **999,976** | 1,065,802 | **1,002,920** |
| Inventories | — | **—** | 653,278 | **589,969** | 653,278 | **589,969** |
| Other receivables | 63,921 | **73,117** | 159,758 | **115,100** | 223,620 | **188,106** |
| Prepaid expenses and other current assets | 133,214 | **181,247** | 376,778 | **413,496** | 509,301 | **594,021** |
| Total current assets | 2,047,747 | **2,662,707** | 3,205,961 | **3,080,859** | 5,246,612 | **5,735,145** |
| Film costs | — | **—** | 409,005 | **427,336** | 409,005 | **427,336** |
| Investments and advances (*3) | 11,400,938 | **12,457,977** | 399,696 | **351,936** | 11,724,651 | **12,734,132** |
| Investments in Financial Services, at cost | — | **—** | 153,968 | **153,968** | — | **—** |
| Property, plant and equipment | 22,920 | **18,247** | 752,847 | **890,640** | 777,053 | **908,644** |
| Other assets: | | | | | | |
| Right-of-use assets | — | **58,897** | — | **333,753** | — | **392,610** |
| Intangibles, net (*3) | 42,968 | **49,871** | 874,998 | **856,439** | 917,966 | **906,310** |
| Goodwill (*3) | 7,225 | **10,834** | 761,327 | **773,054** | 768,552 | **783,888** |
| Deferred insurance acquisition costs | 595,265 | **600,901** | — | **—** | 595,265 | **600,901** |
| Deferred income taxes | 3,533 | **10,365** | 198,953 | **200,021** | 202,486 | **210,372** |
| Other | 32,085 | **38,949** | 311,653 | **305,028** | 339,996 | **340,005** |
| Total other assets | 681,076 | **769,817** | 2,146,931 | **2,468,295** | 2,824,265 | **3,234,086** |
| Total assets | 14,152,681 | **15,908,748** | 7,068,408 | **7,373,034** | 20,981,586 | **23,039,343** |

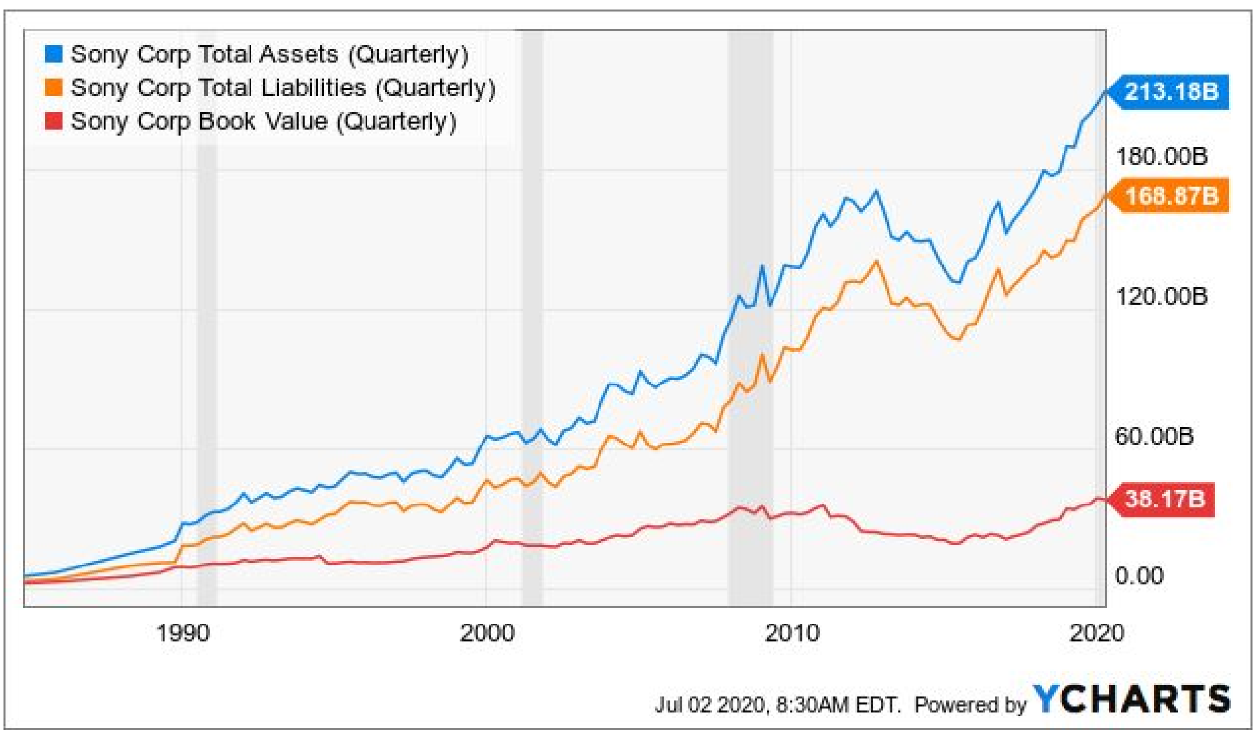
| Liabilities and Equity | | | | | | |
|---|---|---|---|---|---|---|
| Current liabilities: | | | | | | |
| Short-term borrowings (*4) | 564,609 | **758,737** | 226,470 | **81,246** | 791,079 | **839,983** |
| Short-term operating lease liabilities | — | **9,363** | — | **59,595** | — | **68,942** |
| Notes and accounts payable, trade | — | **—** | 492,124 | **380,810** | 492,124 | **380,810** |
| Accounts payable, other and accrued expenses | 40,228 | **40,457** | 1,653,895 | **1,591,072** | 1,693,048 | **1,630,197** |
| Accrued income and other taxes | 19,655 | **22,825** | 115,571 | **123,171** | 135,226 | **145,996** |
| Deposits from customers in the banking business | 2,302,314 | **2,440,783** | — | **—** | 2,302,314 | **2,440,783** |
| Other | 197,123 | **226,455** | 474,926 | **514,368** | 666,024 | **733,732** |
| Total current liabilities | 3,123,929 | **3,498,620** | 2,962,986 | **2,750,262** | 6,079,815 | **6,240,443** |
| Long-term debt | 235,761 | **240,143** | 336,349 | **398,793** | 568,372 | **634,966** |
| Long-term operating lease liabilities | — | **41,192** | — | **273,668** | — | **314,836** |
| Accrued pension and severance costs | 33,979 | **34,211** | 350,253 | **290,444** | 384,232 | **324,655** |
| Deferred income taxes | 355,356 | **391,883** | 176,065 | **173,022** | 531,421 | **549,538** |
| Future insurance policy benefits and other (*5) | 5,642,671 | **6,246,047** | — | **—** | 5,642,671 | **6,246,047** |
| Policyholders' account in the insurance business | 3,048,202 | **3,642,271** | — | **—** | 3,048,202 | **3,642,271** |
| Other | 15,488 | **21,843** | 288,164 | **289,574** | 281,382 | **289,285** |
| Total liabilities | 12,455,386 | **14,116,210** | 4,113,817 | **4,175,763** | 16,536,095 | **18,242,041** |
| Redeemable noncontrolling interest | — | **—** | 8,801 | **7,767** | 8,801 | **7,767** |
| Equity: | | | | | | |
| Stockholders' equity of Financial Services | 1,695,563 | **1,790,333** | — | **—** | — | **—** |
| Stockholders' equity of Sony without Financial Services | — | **—** | 2,850,380 | **3,159,071** | — | **—** |
| Sony Corporation's stockholders' equity | — | **—** | — | **—** | 3,746,377 | **4,125,306** |
| Noncontrolling interests | 1,732 | **2,205** | 95,410 | **30,433** | 690,313 | **664,229** |
| Total Equity | 1,697,295 | **1,792,538** | 2,945,790 | **3,189,504** | 4,436,690 | **4,789,535** |
| Total liabilities and equity | 14,152,681 | **15,908,748** | 7,068,408 | **7,373,034** | 20,981,586 | **23,039,343** |

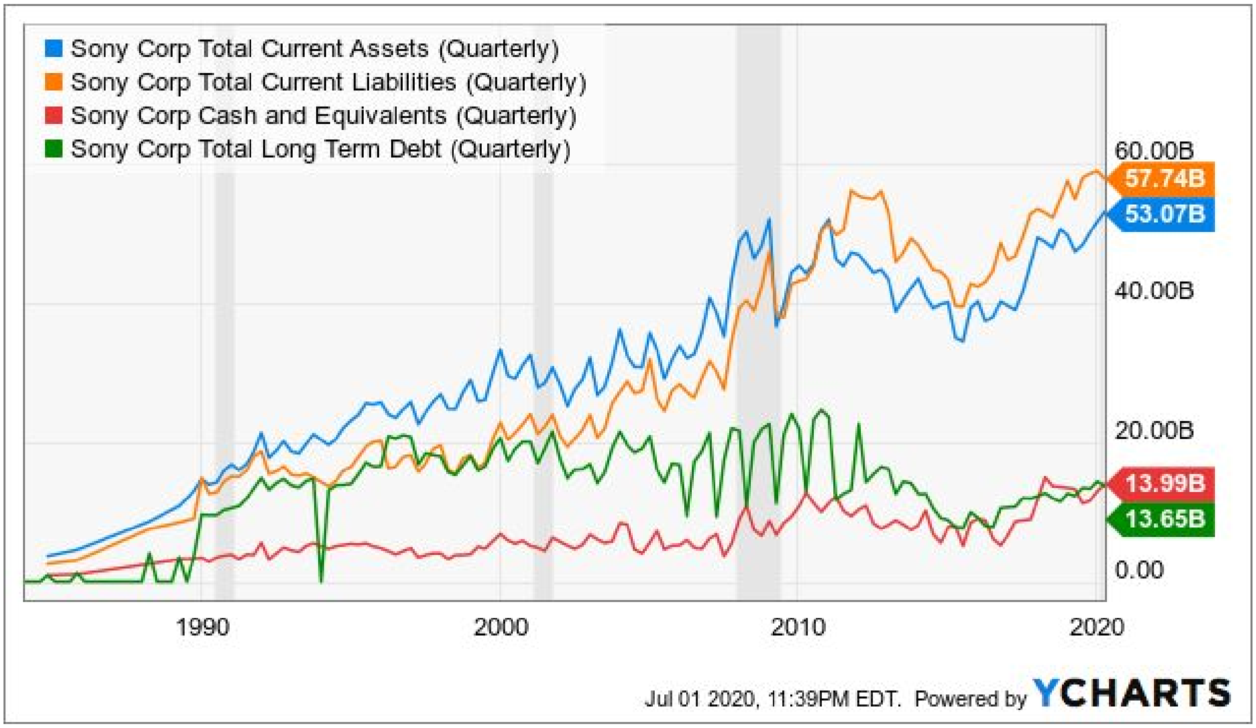
The financial services segment has a good cash and marketable securities position to repay its long-term debts. The ROA is 0.7% while the ROE is 6.5%




This is much better than the average Japanese bank.

As far as the non-financial segments are concerned, Sony has a good balance sheet with enough cash to repay all their debts.






For fixed maturity securities with unrecognized losses held by Sony Life as of March 31, 2020 (6.6 billion yen), maturity dates vary as follows:

| | |
|---|---|
| • Within 1 year: | — |
| • 1 to 5 years: | — |
| • 5 to 10 years: | — |
| • above 10 years: | 100.0% |

For fixed maturity securities with unrecognized losses held by Sony Bank as of March 31, 2020 (2.5 billion yen), maturity dates vary as follows:

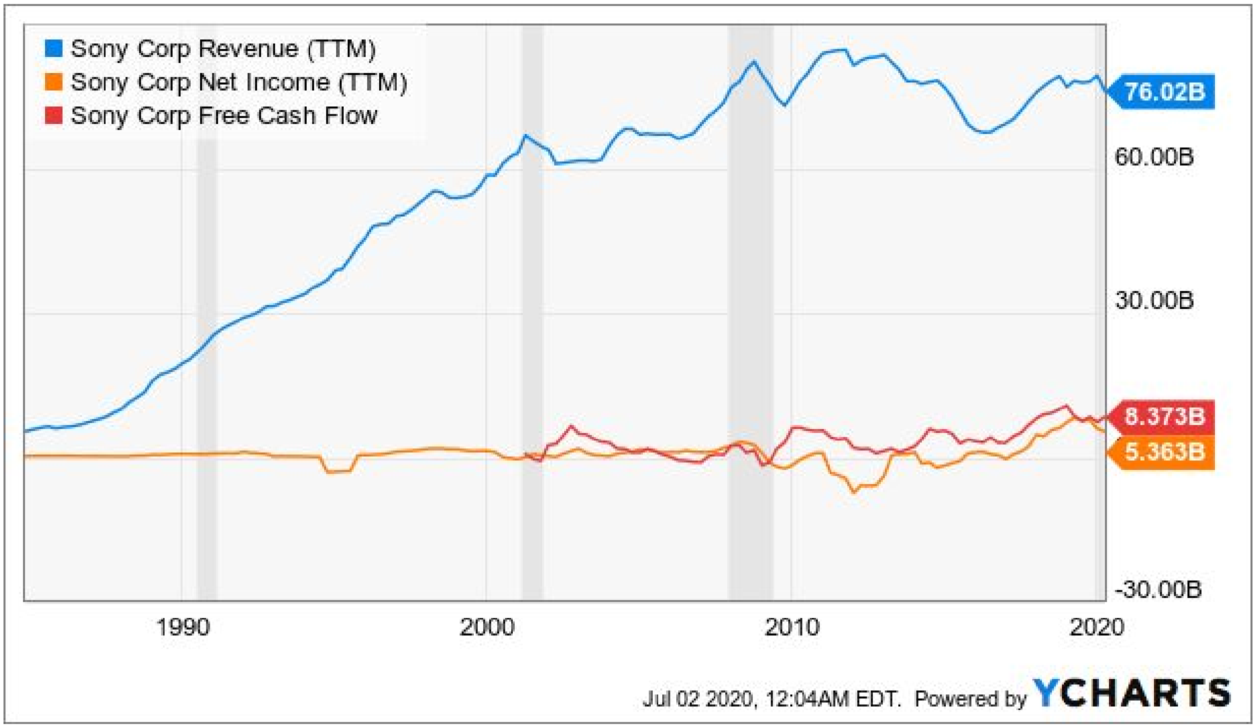
| | |
|---|---|
| • Within 1 year: | 22.4% |
| • 1 to 5 years: | 59.1% |
| • 5 to 10 years: | 1.0% |
| • above 10 years: | 17.5% |

| | Total | Less than 1 year | 1 to 3 years | 3 to 5 years | More than 5 years |
|---|---|---|---|---|---|
| | | | (Yen in millions) | | |
| **Contractual obligations and commitments:** | | | | | |
| Short-term debt (Note 11) | **810,176** | 810,176 | — | — | — |
| Long-term debt (Notes 8 and 11) | | | | | |
| Finance lease obligations and other | **56,350** | 14,216 | 15,593 | 10,011 | 16,530 |
| Other long-term debt | **608,423** | 15,591 | 373,126 | 114,953 | 104,753 |
| Interest on other long-term debt | **4,409** | 1,489 | 1,075 | 729 | 1,116 |
| Operating lease obligations, including imputed interest (Note 8) | **424,965** | 76,469 | 125,254 | 70,967 | 152,275 |
| Purchase commitments (Note 28) | | | | | |
| Contracts for the production or purchase of motion pictures, television programming or certain rights and rights to broadcast certain live action sporting events | **126,917** | 56,385 | 52,372 | 17,480 | 680 |
| Contracts with recording artists, songwriters and companies | **128,678** | 56,662 | 33,360 | 16,576 | 22,080 |
| Sponsorship contracts related to advertising and promotional rights | **5,162** | 4,602 | 560 | — | — |
| Long-term contracts for development, distribution and publishing of game software | **29,243** | 5,083 | 4,571 | 5,115 | 14,474 |
| Purchase commitments for fixed assets, materials, and other | **394,911** | 255,587 | 88,711 | 47,314 | 3,299 |
| Future insurance policy benefits and other and policyholders' account in the life insurance business* (Note 10) | **26,457,407** | 594,903 | 1,299,026 | 1,370,756 | 23,192,722 |
| Gross unrecognized tax benefits** (Note 22) | **41,268** | — | — | — | — |
| Total | **29,087,909** | 1,891,163 | 1,993,648 | 1,653,901 | 23,507,929 |

The debts are spaced out over the long-term and they have enough cash to repay most of their contractual obligations for the year.

Finally, let's look at the cash flow

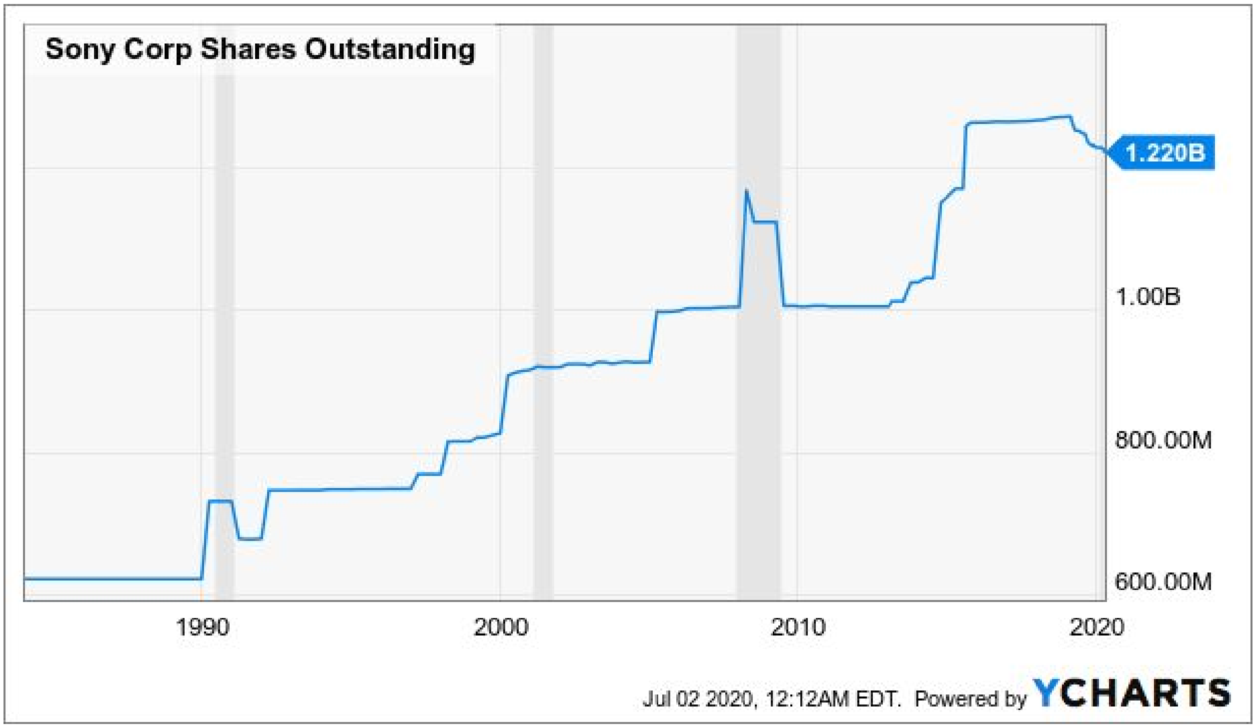
| | Financial Services | | Sony without Financial Services | | Consolidated | |
|---|---|---|---|---|---|---|
| | **Fiscal year ended March 31** | | | | | |
| | 2019 | **2020** | 2019 | **2020** | 2019 | **2020** |
| | | | **(Yen in millions)** | | | |
| **Cash flows from operating activities:** | | | | | | |
| Net income (loss) | 116,641 | **93,266** | 866,352 | **547,924** | 966,550 | **622,260** |
| Adjustments to reconcile net income (loss) to net cash provided by (used in) operating activities: | | | | | | |
| Depreciation and amortization, including amortization of deferred insurance acquisition costs and contract costs | 91,179 | **106,667** | 282,847 | **309,975** | 374,026 | **416,642** |
| Amortization of film costs | — | **—** | 348,493 | **329,809** | 348,493 | **329,809** |
| Other operating (income) expense, net | 104 | **(1,729)** | (71,672) | **(3,841)** | (71,568) | **(3,611)** |
| (Gain) loss on marketable securities and securities investments, net | (66,383) | **93,088** | (118,630) | **20,177** | (185,013) | **113,265** |
| Changes in assets and liabilities: | | | | | | |
| (Increase) decrease in notes, accounts receivable, trade and contract assets | (867) | **5,947** | 2,056 | **55,466** | 1,144 | **62,654** |
| (Increase) decrease in inventories | — | **—** | 30,455 | **40,315** | 30,455 | **40,315** |
| (Increase) decrease in film costs | — | **—** | (410,994) | **(361,194)** | (410,994) | **(361,194)** |
| Increase (decrease) in notes and accounts payable, trade | — | **—** | 18,534 | **(91,435)** | 18,534 | **(91,435)** |
| Increase (decrease) in future insurance policy benefits and other | 544,179 | **520,683** | — | **—** | 544,179 | **520,683** |
| (Increase) decrease in deferred insurance acquisition costs | (88,807) | **(99,433)** | — | **—** | (88,807) | **(99,433)** |
| (Increase) decrease in marketable securities held in the life insurance business | (64,034) | **(124,270)** | — | **—** | (64,034) | **(124,270)** |
| Other | (10,334) | **10,021** | (194,002) | **(84,346)** | (204,227) | **(75,940)** |
| Net cash provided by (used in) operating activities | 521,678 | **604,240** | 753,439 | **762,850** | 1,258,738 | **1,349,745** |
| **Cash flows from investing activities:** | | | | | | |
| Payments for purchases of fixed assets | (18,610) | **(21,822)** | (294,044) | **(420,149)** | (312,644) | **(439,761)** |
| Payments for investments and advances | (1,078,250) | **(1,319,888)** | (53,525) | **(48,853)** | (1,131,775) | **(1,367,915)** |
| Proceeds from sales or return of investments and collections of advances | 309,498 | **343,740** | 84,909 | **94,813** | 394,407 | **438,553** |
| Other | 287 | **8,873** | (257,719) | **11,100** | (257,433) | **16,845** |
| Net cash provided by (used in) investing activities | (787,075) | **(989,097)** | (520,379) | **(363,089)** | (1,307,445) | **(1,352,278)** |
| **Cash flows from financing activities:** | | | | | | |
| Increase (decrease) in borrowings, net | 160,902 | **193,709** | (325,247) | **(79,572)** | (164,341) | **113,724** |
| Increase (decrease) in deposits from customers, net | 246,945 | **258,720** | — | **—** | 246,945 | **258,720** |
| Dividends paid | (26,100) | **(27,189)** | (38,067) | **(49,574)** | (38,067) | **(49,574)** |
| Other | 112 | **61** | (157,799) | **(247,754)** | (167,421) | **(257,212)** |
| Net cash provided by (used in) financing activities | 381,859 | **425,301** | (521,113) | **(377,080)** | (122,884) | **65,658** |
| Effect of exchange rate changes on cash and cash equivalents | — | **—** | 52,465 | **(21,643)** | 52,465 | **(21,643)** |
| Net increase (decrease) in cash and cash equivalents, including restricted | 116,462 | **40,444** | (235,588) | **1,038** | (119,126) | **41,482** |
| Cash and cash equivalents, including restricted, at beginning of the fiscal year | 393,133 | **509,595** | 1,199,806 | **964,218** | 1,592,939 | **1,473,813** |
| Cash and cash equivalents, including restricted, at end of the fiscal year | 509,595 | **550,039** | 964,218 | **965,256** | 1,473,813 | **1,515,295** |
| Less — restricted cash and cash equivalents, included in other current assets and other assets | — | **—** | 3,740 | **2,938** | 3,740 | **2,938** |
| Cash and cash equivalents at end of the fiscal year | 509,595 | **550,039** | 960,478 | **962,318** | 1,470,073 | **1,512,357** |




Despite the volatile years for Sony from 2011 to 2015, the company was able to generate positive free cash flows.

We can see that Sony is also a dividend payer.

Although they have been increasing their dividends in recent years, the yield is still low. Sony increased its dividend by about 20% per year for the last 5 years. With a low payout ratio, it is possible for them to keep increasing these dividends in the coming years.




Although, in recent years, the number of shares have been falling but over the long-term, it has been increasing but at less than 2% annually.

Let’s now have a look at the trends in the business of Sony.

<G&NS>

- The two keywords for the future direction of PlayStation® are “immersive” and “seamless.”
    - The launch of PS5, scheduled for the 2020 holiday season, will deliver even more immersive experiences on a game console. In particular, higher speed achieved through improved computational power and a customized ultra-fast broadband solid state drive (SSD), enhanced sensory perceptions generated by the new revolutionary controller, and sound delivered in diverse and sophisticated 3D audio will combine to realize next-generation console game experiences unlike anything before.
    - PS Now, a cloud streaming game service, and “Remote Play” functionality will provide a seamless game experience to users anytime and anywhere.
- Sony will pursue its mission to make PlayStation “The Best Place to Play” by leveraging the latest computing, streaming, cloud and 5G technologies, together with excellent content.

The Gaming business has been the most important segment in recent years and this year with the launch of the PS5, it will be more important than ever.

<Music>

- To maximize the business opportunities from the continuing growth of the subscription digital streaming market, Sony will seek to reinforce the quality and quantity of its music catalog, while also discovering and nurturing new artists to generate new music content.
- The music business is expected to grow steadily due to the strengthening of the music publishing business through the consolidation of EMI in the fiscal year ended March 31, 2019 as well as the growth of the streaming market.
- The Sony Music Group, which combines the recorded music and the music publishing businesses outside of Japan, was established in August 2019. With a vision to become the most talent-friendly music company, the Sony Music Group will continue to support artists from all directions.
- Within Sony's music business in Japan, Sony has created hits in diverse IP areas such as music, Japanese animation ("anime") and character merchandising, and also plans to enhance its artist management business.

We cannot expect any big revolutions with the Music business but it will provide stability to the more chaotic Gaming business.

<Pictures>

- As new DTC services are continuing to be introduced across the industry and demand for content is ever-increasing, Sony is investing in the development of owned IP and strengthening its creative capacity, as well as continuing to produce outstanding video content across diverse genres.
- Sony will continue to closely monitor the impact from the spread of COVID-19 on the consumption of video content going forward, while working with the creative community and its supply chain partners, including exhibitors, towards resuming theatrical release of its films.

The same thing can be said about Pictures. Pictures will be affected by Covid-19 like we said earlier.

<EP&S>

- Sony defines the products that bear the Sony brand, including television, audio and video products, still and video cameras, as well as smartphones, collectively as Branded Hardware. Sony continues to introduce products and services that deliver the value of Reality (spatial value) and Real-Time (time value) through sound, video and communication technologies. Additionally, Sony will aim to address the increasing need for remote solutions that connect people to people, and people to things.
- In the medical business, Sony will reinforce its efforts to contribute to the health of people over the long-term by leveraging the imaging, display and mechatronics technologies which it has cultivated over many years.
- In light of the impact from the spread of COVID-19 on product demand and supply chains, Sony will engage in initiatives designed to enhance its business structure in response to changes in the business environment.

This segment is in decline and is a drag to the overall performance of Sony.

<I&SS>

- Sony expects that the mid- to long-term demand for CMOS image sensors will continue to grow due to the adoption of multiple sensors and larger-sized sensors in smartphones. Although Sony is carefully reviewing investment in greater production capacity, taking into account the uncertain market environment mainly resulting from the impact of the spread of COVID-19, its goal of maintaining the global number one position in imaging applications, and becoming the global number one position in sensing remains unchanged.
- Sony is also strengthening its focus on sensing solutions for mobile devices that "connect people to people," such as Time-of-Flight sensors, and automotive sensing solutions that "support people," which are expected to grow over the long term.
- Based on its belief that CMOS image sensors will be key devices in the AI era, Sony intends to leverage its world-leading stacked CMOS image sensor technology and provide AI sensing solutions that deliver new value across a wide range of applications.

This segment could be very important for the future growth of Sony

<Financial Services>

- Under the new SFH management team, initiatives will include measures to further increase the value generated by the Lifeplanner® sales employees who constitute the core value of the life insurance business.
- Sony will also explore further opportunities for synergies including leveraging Sony's technology in the Financial Services segment.

Financial Services just like Music and Pictures are important backbones to the consolidated business.

Let's have a look at what the management had to say in the last conference call

The Electronics Products & Solutions or EP&S segment is seeing the impact of values and we expect the impact to expand to other segments going forward. The impact on the results of the Pictures segment will take some time to become conspicuous, but it might last a long time.

While most business segments will endure a negative impact, some of our segments such as Game & Network Services will see a positive impact on their results. And later, I will explain in as much detail as possible, the recent impact on each of our businesses and the risks that we currently see for fiscal year 2020.

The CEO sees a positive impact of the pandemic on the Gaming business

Now, I will discuss the impact as the virus is having on the Game & Network Services segment. Although production of PS4 hardware has been slightly impacted by issues with the supply chain for certain components, we are meeting demand in the short-term with inventory and sales trending well.

Recently, network services revenue has increased significantly as game play hours on the PlayStation network have reached 1.5 times that of the Christmas season, and sales of game downloaded from network, as well as network subscriber numbers have increased significantly since March.

As for PlayStation 5, there have been some challenges with the part of the testing process and the qualification, the production lines, primarily due to employees working from home, having to work from home and restrictions on international travel.

The most impacted segment is also the worst performing one.

Of all businesses, we expect the EP&S segment to be impacted the most from the coronavirus. First, I will explain the supply side which includes manufacturing and procurement. Of the four major manufacturing sites for our TV business, we seized a production in stages from mid-March at the factory we own in Malaysia and at the factories we outsourced to, in Mexico and Slovakia pursuant to local government policy. These three factories have returned to partial production, but a portion of supply continues to be unable to meet demand.

The company is focusing more on sensors

At this point in time, there is no change to our view that image sensors will drive improvements in the first functionality of cameras, which are a major differentiating factor for smartphones or our view as to the expansion of demand over the mid-term to long-term. Thus, we have already decided to invest more than 80% of the cumulative capital expenditure we plan to make over three years of our midrange plan.

However, given the uncertain operating environment, we will postpone as long as possible decisions regarding the remaining capital expenditures so we can make appropriate and timely decisions after gathering more market information. In addition, we will be disciplined in our prioritization of research and development spending, but we plan to maintain the current level of spending as we manage Sony for the mid-term to long-term.

With 80% of cumulative Capital expenditure dedicated to this segment in the coming 3 years.

The best we can do is make certain hypotheses regarding the trajectory of the coronavirus disease and estimate FY '20 operating income for each of our segments based on the assumptions you see here. The estimated results are expressed as a percentage range of actual FY '19 operating income.

Based on these assumptions, we estimate that consolidated operating income would decrease at least 30% compared to the FY '19 result. These figures are merely an estimate based on certain assumptions and we are continuing to work to improve our profit level.

The company expects a drop of at least 30% in operating income this year.

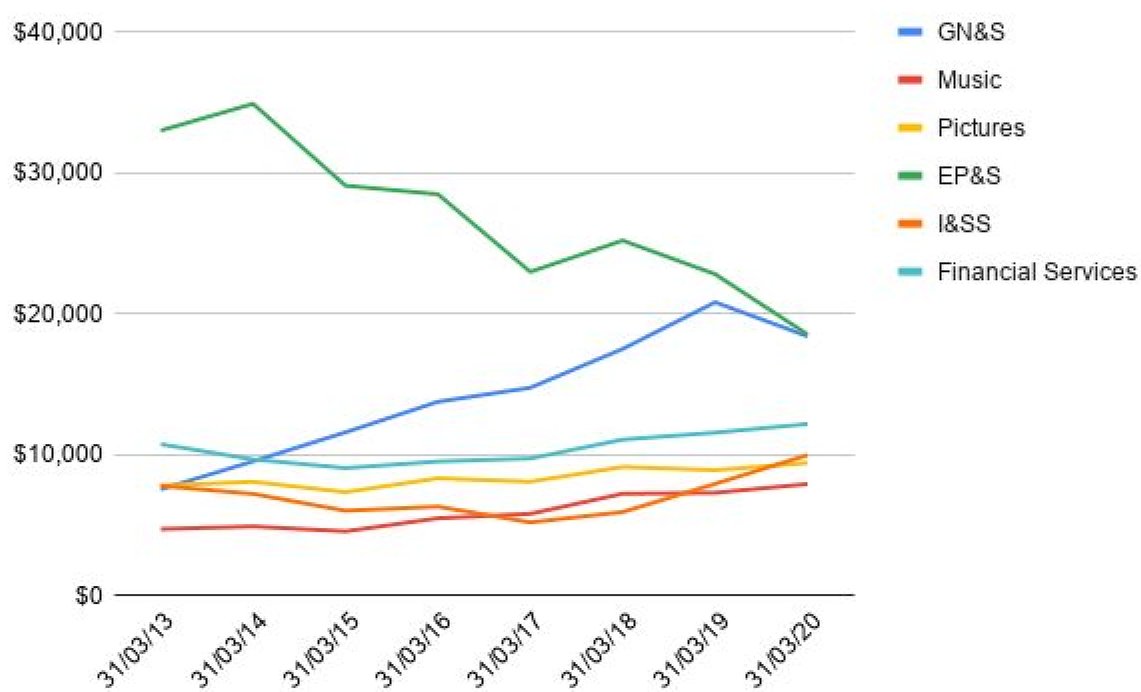
Like we said, the best way to value this company and to consider it as an investment is based on operating profits.

We're going to have another look at the charts that I previously prepared and make future estimates for each segment.

| Sales in M USD | 31/03/13 | 31/03/14 | 31/03/15 | 31/03/16 | 31/03/17 | 31/03/18 | 31/03/19 | 31/03/20 |
|---|---|---|---|---|---|---|---|---|
| GN&S | $7,522 | $9,507 | $11,567 | $13,734 | $14,730 | $17,487 | $20,798 | $18,386 |
| Music | $4,699 | $4,886 | $4,538 | $5,466 | $5,783 | $7,208 | $7,275 | $7,896 |
| Pictures | $7,795 | $8,054 | $7,322 | $8,302 | $8,064 | $9,110 | $8,882 | $9,393 |
| EP&S | $32,985 | $34,882 | $29,070 | $28,466 | $22,958 | $25,179 | $22,794 | $18,516 |
| I&SS | $7,770 | $7,196 | $6,000 | $6,294 | $5,175 | $5,909 | $7,911 | $9,951 |
| Financial Services | $10,721 | $9,645 | $9,030 | $9,496 | $9,710 | $11,052 | $11,543 | $12,155 |

| operating profits in M US | 31/03/13 | 31/03/14 | 31/03/15 | 31/03/16 | 31/03/17 | 31/03/18 | 31/03/19 | 31/03/20 |
|---|---|---|---|---|---|---|---|---|
| GN&S | $18 | -$78 | $401 | $785 | $1,210 | $1,599 | $2,799 | $2,213 |
| Music | $396 | $487 | $491 | $773 | $677 | $1,151 | $2,092 | $1,320 |
| Pictures | $509 | $501 | $488 | $341 | -$719 | $370 | $491 | $632 |
| EP&S | -$1,464 | -$1,103 | -$894 | -$350 | $543 | $1,819 | $1,221 | $809 |
| I&SS | $15 | $256 | $456 | $638 | $422 | $674 | $1,287 | $2,185 |
| Financial Services | $1,551 | $1,653 | $1,611 | $1,385 | $1,486 | $1,602 | $1,453 | $1,200 |

| operating Margins | 31/03/13 | 31/03/14 | 31/03/15 | 31/03/16 | 31/03/17 | 31/03/18 | 31/03/19 | 31/03/20 | Average |
|---|---|---|---|---|---|---|---|---|---|
| GN&S | 0.24% | -0.82% | 3.47% | 5.72% | 8.21% | 9.14% | 13.46% | 12.04% | 6.43% |
| Music | 8.43% | 9.97% | 10.82% | 14.14% | 11.71% | 15.97% | 28.76% | 16.72% | 14.56% |
| Pictures | 6.53% | 6.22% | 6.66% | 4.11% | -8.92% | 4.06% | 5.53% | 6.73% | 3.87% |
| EP&S | -4.44% | -3.16% | -3.08% | -1.23% | 2.37% | 7.22% | 5.36% | 4.37% | 0.93% |
| I&SS | 0.19% | 3.56% | 7.60% | 10.14% | 8.15% | 11.41% | 16.27% | 21.96% | 9.91% |
| Financial Services | 14.47% | 17.14% | 17.84% | 14.59% | 15.30% | 14.50% | 12.59% | 9.87% | 14.54% |




The Gaming business will certainly have higher revenues than last year. In the bull case, they will have $25 billion in sales this year while in the bear case, I'm looking at $20 billion. We keep a profit margin of 12%. Therefore, we can expect between $2.4 to $3 billion in operating profits. Next year, sales are going to accelerate. Let's assume a growth rate of 15% for the first three years as the bull case and 10% for the bear case. Growth for the next 2 years will be 10% in both cases.

Pictures will be affected this year with a fall in revenues and operating income of 30% in the bull case and 50% in the bear case. The bear recovery will only start in the FY 2023 and will grow by 2% annually. The bull case is recovery in FY 2022 with 2% growth annually. We can expect a similar scenario with Music and Financials.

EP&S will keep declining. This year, they are going to lose money in this segment and are unlikely to reach profitability again anytime soon. In the bull case, for FY 2025, we can expect $500 million in operating income and in the bear case $0.

I&SS will keep growing at a fast rate but because of saturation of the smartphone market, the demand may not be as big as in the past and this is a very competitive space. We can estimate in the bear case a 20% growth in operating income and in the bull case a 30% growth.

In the bull case, we have a total operating income of $15.3 billion in 2025 while in the bear case, $11.7 billion.

With 1.22 billion shares outstanding, this is equivalent to Operating EPS of $9.59 for the bear case and $12.54 for the bull case.

Now, let's talk about operating PE multiples.

It is a little difficult to compare Sony with industry averages since they span throughout different industries.

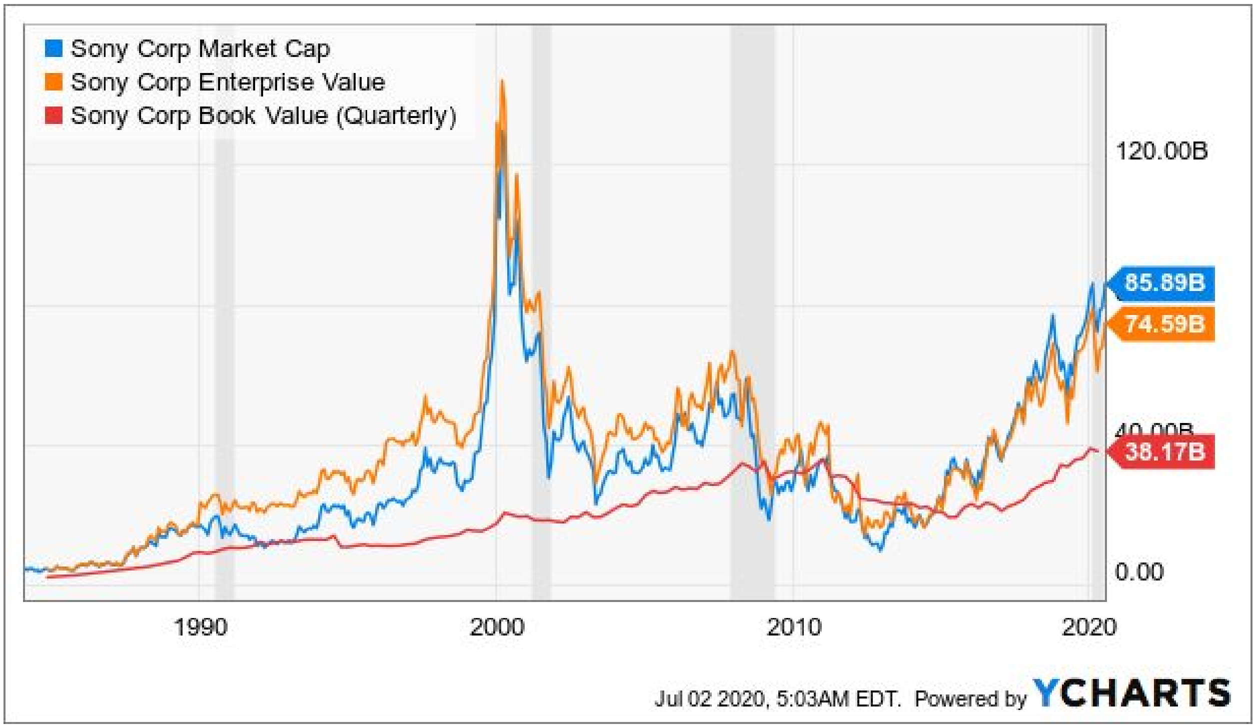

But as far as historical data are concerned, Operating PE ranged from 7.5 to 15.

In our Bull case, we will use an operating PE of 25, in our base cases 10 , 15 and 20 and in our bear case 7.

| | | | | | Operating PE Multiples | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Operating EPS in 2025** | | | **X7** | | **X10** | | **X15** | | **X20** | | **X25** |
| **Bear** | **$** | **9.59** | $ | 67.13 | $ | 95.90 | $ | 143.85 | $ | 191.80 | $ | 239.75 |
| **Base** | **$** | **11.07** | $ | 77.49 | $ | 110.70 | $ | 166.05 | $ | 221.40 | $ | 276.75 |
| **Bull** | **$** | **12.54** | $ | 87.78 | $ | 125.40 | $ | 188.10 | $ | 250.80 | $ | 313.50 |
| **Returns** | | | | -4.63% | | 57.27% | | 135.90% | | 214.53% | | 345.38% |
| **CAGR** | | | | -0.94% | | 9.48% | | 18.73% | | 25.76% | | 34.82% |
| **Probability** | | | | 20% | | 35% | | 30% | | 10% | | 5% |
| **Expected CAGR** | | 13.06% | | -0.19 | | 3.32 | | 5.62 | | 2.58 | | 1.74 |

The expected return is only 13%. This is not enough for me to consider making an investment.

The main issue I have with this company is that if a crash happens, it will crash and then, we will be able to buy it at a cheaper price.




For the time being, it is better to skip on this company.

Ishfaaq Peerally

2nd of July 2020