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Application Software

April 21, 2022

Information Technology Sector

Industry Rating **Overweight**

Investment Thesis

We recommend an overweight rating for the Application Software industry over the next year. The software industry consists of companies that develop, distribute, and maintain software systems. In 2021 the Application Software industry had $189 billion in total revenues and is expected to grow at an annualized rate of 6.9% through 2026. This significantly outpaces the United States Gross Domestic Profit (GDP) growth rate of 2.1% over the same period.

Drivers of Thesis

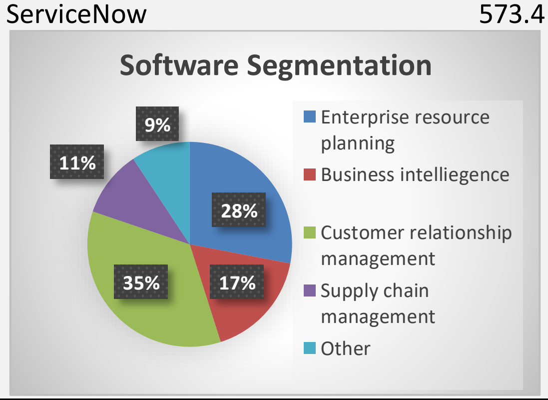
- The pandemic has forced many organizations to move applications to the cloud in the forms of Platform-as-a-Service (PaaS) or Infrastructure-as-a-Service (IaaS).
- The Application Software industry has increased revenues each year since 2009 with an average increase of $19.5 billion or 9.19% and is expected to grow by 8.5% in 2022.[7]

Risks to Thesis

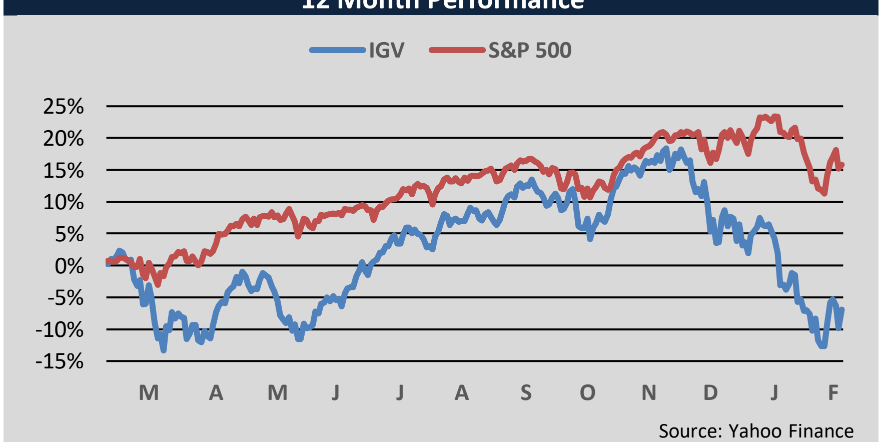
- The Application Software industry does not face too much regulatory risk itself, but large players in the industry such as Alphabet could be subject to certain forms of regulation that could shake the industry.
- A combination of rising inflation and continued uncertainty regarding the Russia/Ukraine war could scare equity markets and trigger a full recession.
- As the Federal Reserve increases interest rates through 2022, fewer companies may be willing to incur extra costs shifting operations to a cloud-based platform.

Industry Description

Market Cap	(in $Billions)
Alphabet	1,893
IBM	123
Salesforce	215
Intuit	154
SAP	149
ServiceNow	115
Price/Sales	
Alphabet	7.8
IBM	2.1
Salesforce	9.9
Intuit	15.0
SAP	5.3
ServiceNow	22.4
Price/Earnings	
Alphabet	25.8
IBM	21.0
Salesforce	51.5
Intuit	70.2
SAP	28.0
ServiceNow	573.4



12 Month Performance



IGV is an Expanded Tech – Software Sector ETF

Industry Description

The Application Software industry consists primarily of businesses that develop and maintain cloud-based applications such as business analytics, customer relationship management (CRM), business intelligence (BI), and other enterprise-oriented software. Operators may also provide consulting and technical support related to this software. Companies in this industry earn most of their revenues from business-to-business sales (B2B). This sub-industry does not include publishers of productivity or database software or manufacturers of computer hardware.

EXECUTIVE SUMMARY

The digital shift has been growing for some time now, but companies were forced to accelerate this shift due to the pandemic. People started working from home which meant they did not have access to the same applications and computing power that comes from working in the office. To overcome this obstacle, businesses were forced to move operations to cloud-based platforms. Moving operations to the cloud increases collaboration amongst employees, reduces data loss, and allows for greater insights. There can be high transformation costs associated with converting applications to a cloud-based system. However, these up-front costs will soon turn into savings that will enable companies to grow later.[11]

The Application Software industry has grown its revenues each year since 2009 and is expected to keep growing at an annualized rate of 6.9% through 2026. These high growth estimates are a key factor for our optimistic outlook on the industry over the next 12 months. A few key catalysts for this growth are the expansion into big data analytics and mobile markets. We believe the future for businesses is in the cloud and companies who do not make the shift will be left behind. The more connected a business is to its suppliers and consumers, the greater benefits from business analytics solutions.[3]

INDUSTRY DESCRIPTION

The Application Software industry is comprised of companies that develop and maintain cloud-based applications such as business analytics, customer relationship management (CRM), business intelligence (BI), enterprise resource planning (ERP), supply chain management, and other enterprise-oriented software. Operators may also provide consulting and technical support related to these applications. Cloud-based applications are essential for large businesses and create a competitive advantage for smaller firms. As more businesses push to expand their online presence, the cloud services industry will continue to grow. Small and mid-sized companies have often been slower adopters of cloud services, but the pandemic has accelerated this process and the smaller firms are expected to be the main source of growth in the industry.

Most industries within the technology sector are dominated by a few major players (Apple, Microsoft, Alphabet) this is not the case for Application Software. This industry has several major competitors, the largest of which, according to IBIS World, is SAP which accounts for 16.8% of the industry followed by salesforce at 14.3%, and IBM at 7.8%. IBIS World does not include Alphabet in its breakdown since it is not classified as being in the Application Software industry. The chart below shows major players in the industry, according to FactSet, ranked by industry revenue.

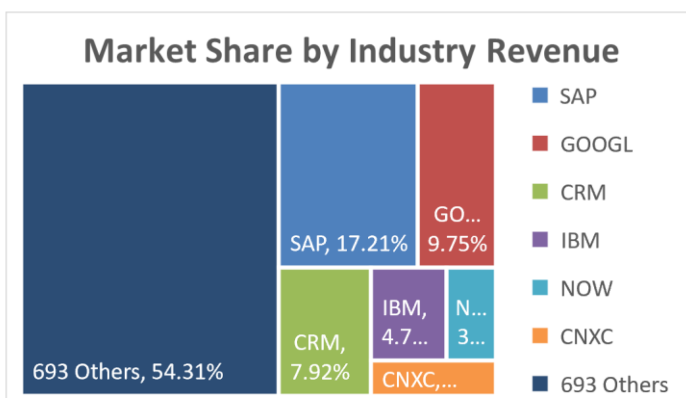
Top 6 by Revenue in Enterprise Management Software

	% of Revenue	Revenue
SAP SE	98.85	27,521
Alphabet, Inc.	7.15	15,586
salesforce.com, inc.	70.47	13,043
International Business Machines Corp	15.59	7,567
ServiceNow, Inc.	100.00	4,988
Concentrix Corp.	100.00	4,696

Showing up to 6 of 699 companies | Values in EUR
Values are estimated based on FactSet's Revere Industry Classification System

Source: FactSet

The Application Software industry has a moderate level of concentration with the top four firms accounting for 41.1% of the industry revenue in 2021. Larger companies in the industry have a competitive advantage as they can bundle product offerings and stay competitive on cost. Larger firms are more well-known, and their software is more widely used leading to lower training costs for new employees. The remaining market share is divided among nearly 700 firms. These small firms lead to strategic acquisitions for the major players.



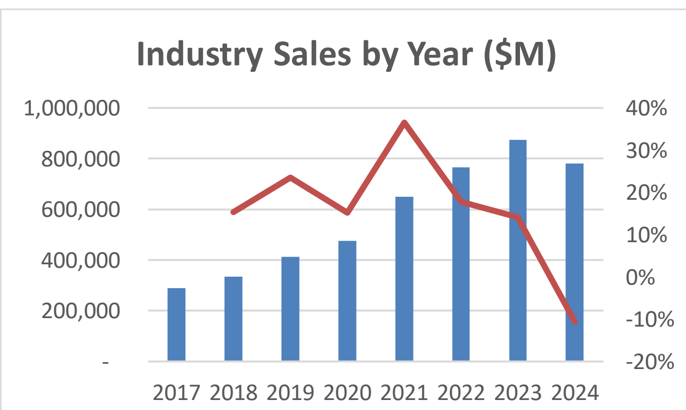
Source: FactSet

Even with a moderate level of concentration, the Application Software industry is seeing an increased number of new entrants to the market. As the digital transformation continues for businesses and personal use, new opportunities present themselves for start-ups. Several of these start-ups strive to follow in the footsteps of salesforce.com which was founded in 1999 and was able to survive the dot-com bubble and recession of 2008. Today Salesforce is a dominant player competing against industry veterans SAP, Alphabet, and IBM. Even with new entrants entering the market, concentration is expected to remain moderate due to acquisitions of smaller firms.

INDUSTRY TRENDS

COVID-19 Impact

When the pandemic initially began in the United States in March of 2020, the equity markets took a major hit. This economic downturn caused many businesses to hoard cash, this had an adverse effect on the Application Software industry as companies stopped expanding their operations and limited capital expenditure. As the economy began to rebound and businesses realized the only way to connect with their customers was online, the industry began to grow faster than it had in any of the past 10 years. Sales for the industry grew by 10% and 21% in 2020 and 2021, respectfully, and are projected to average 16% growth in each of the next three years. [1]



Source: FactSet

The pandemic showed businesses that cloud-based applications enable you to work remotely and still be able to communicate with customers and suppliers. Thanks to these applications many businesses were able to remain open and continue filling orders while the rest of the world was shut down.

As new Covid-19 variants arise pushing back return to office dates, businesses are beginning to realize that remote work is here to stay. To remain competitive in these new times, businesses must adopt services that promote virtual work while still spurring innovation and collaboration.

New Entrants

The Application Software industry has low barriers for new entrants into the marketplace. There are no regulatory obstacles and relatively low initial operating expenses. Even with these low barriers to entry, it is still difficult for new players in the industry to lure customers away from existing businesses. The best way for new entrants to establish themselves is to target smaller businesses or develop new and innovative software. Another possible way to gain market share is to target niche industries and develop customized applications for businesses in that field.

Barriers to Entry Checklist

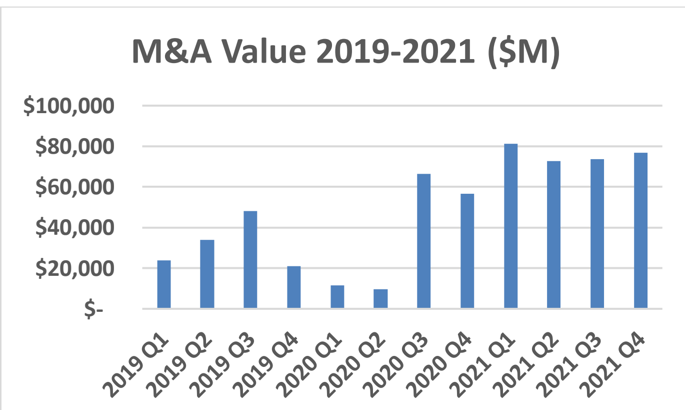
Competition	Medium
Concentration	Medium
Life Cycle Stage	Growth
Technology Change	High
Regulation & Policy	None
Industry Assistance	None

Source: IBIS World

M&A Activity

There have been several major acquisitions in the Application Software industry two of which were made by Salesforce. In June of 2019, salesforce announced it was acquiring Tableau Software Inc. for $14.7 billion in stock representing a 42% premium. In April of 2021, Microsoft entered into an agreement to acquire Nuance Communications for $17.8 billion in cash representing a 23% premium. The largest and most disruptive recent acquisition occurred in December of 2020 when Salesforce announced it was acquiring Slack Technologies of $26.7 billion representing a 54% premium. This strategic acquisition closed in July of 2021 and was financed by 60%/40%, cash and stock split.[1, 10]

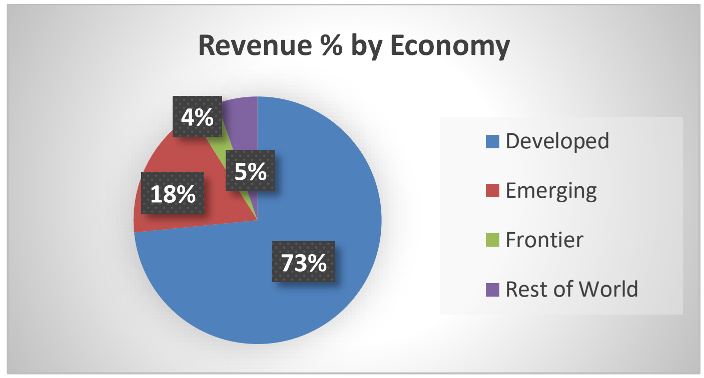
M&A activity has exploded in the last six quarters with 2,533 transactions worth a combined value of over $427 billion taking place. The Q4 2021 YoY value of transactions is up 36% and the YoY total deal count for the same period is up 23%. With interest rates expected to rise over the coming year, total M&A activity may slow as companies elect not to issue higher interest debt to fund deals. However, M&A activity is expected to remain elevated when compared to pre-pandemic levels as new startups enter the marketplace.



Source: FactSet

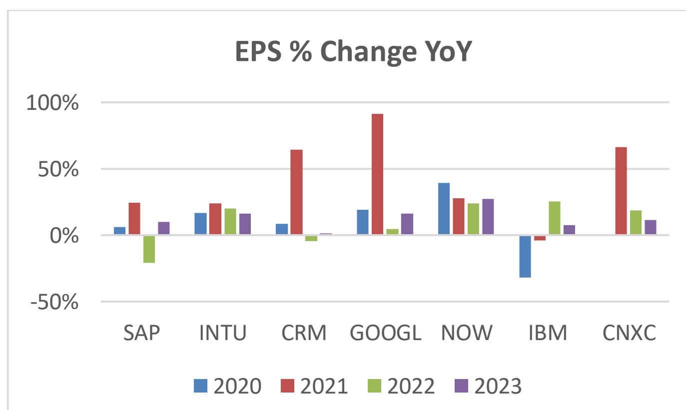
MARKETS AND COMPETITION

The Application Software industry is a global market however, all the major players are headquartered in the United States except for SAP which is based in Germany. International trade disputes and tariffs have a negligible effect on the industry as software is digitally distributed. The Americas and Europe are the main sources of revenue with 39% and 38% of revenues coming from those two regions, respectively. What is more impressive is that the industry earns 73% of total revenues from developed economies and 18% from emerging economies. This means as regions such as South America, Africa, and Southeast Asia become more developed in the coming years, this will increase the total addressable market (TAM).[1]



Source: FactSet

As discussed previously, the industry is not too concentrated however, we will discuss the major players more in-depth and analyze where they derive their revenues. The major players consist of SAP, Alphabet, Salesforce, IBM, ServiceNow, Concentrix, and Intuit. Each of which has at least a 2% market share of the Application Software industry. The industry has seen explosive growth over the last 18 months with GOOGL, CRM, and CNXC each seeing Year-over-Year EPS grow by over 50%. Looking at EPS estimates for 2022, the smaller players in the industry such as NOW, INTU, and CNXC are expected to have high growth. Whereas the larger players such as SAP, GOOGL, and CRM and expected to have low or even negative growth in 2022.[1]

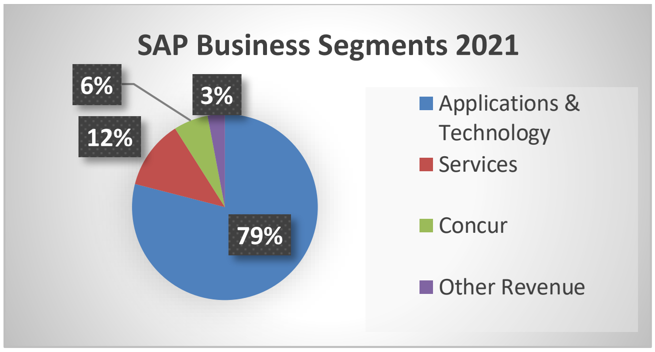


Source: FactSet

SAP SE (SAP)

SAP SE is a German-based provider of enterprise application software and software-related services that was founded in 1972. SAP is the largest player in the

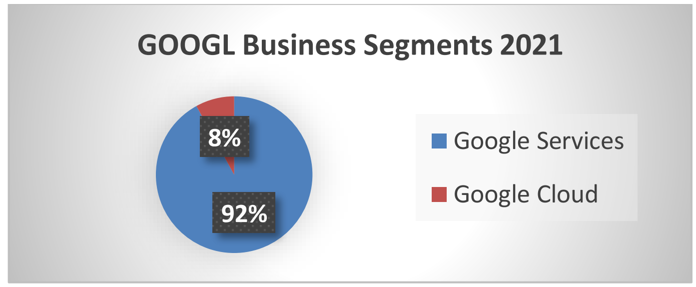
Application Software industry with over 17% market share. SAP SE derives 99% of its revenues from the Application Software industry and 33% of these revenues come from the United States. It operates through three key segments: Applications & Technology; Services; and Concur, with 79% of revenues coming from the Applications & Technology segment. Currently, SAP has a 3.6% long-term growth rate and a total market cap of $149 billion.[1]



Source: FactSet

Alphabet Inc. (GOOGL)

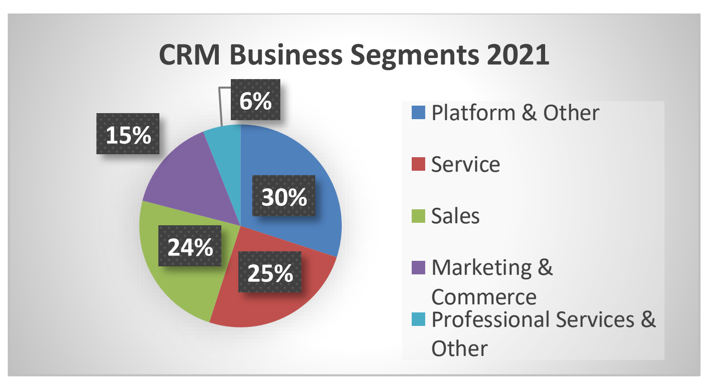
Alphabet is the parent company of Google and currently has a market cap of $1,893 billion and a 16.6% long-term growth rate. Alphabet operates through two main business segments: Google Services and Google Cloud. The Google Cloud segment is the portion of revenue that comes from the Application Software industry and although it only accounts for 8% of Alphabet's total revenue, it accounts for 10% of the industry's total revenues. Alphabet was technically founded in 2015 since that is when it became the parent company for Google which was founded in 1998. Alphabet currently earns 46% of total revenues from the United States. In 2021, Alphabet recorded a net income of $76 billion and total cash of $140 billion. Alphabet is one of the largest companies in the world and certainly has the resources to expand its market share in the industry. However, Alphabet must tread lightly as it has had anti-trust issues in the past and cannot afford to get on the bad side of regulators.[1]



Source: FactSet

salesforce.com (CRM)

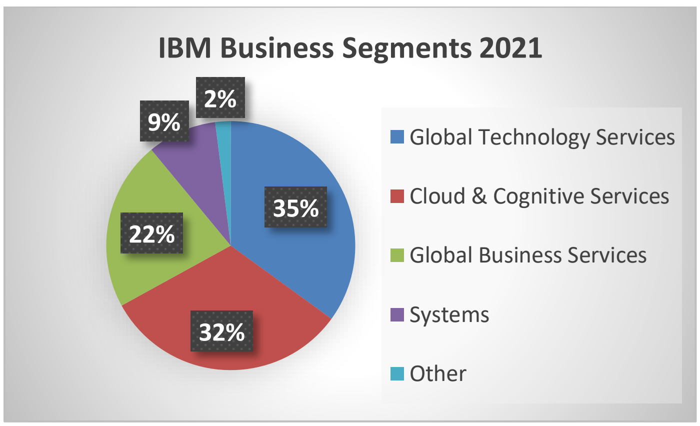
salesforce.com was founded in 1999 and is headquartered in the United States. It engages in the design and development of cloud-based enterprise software for customer relationship management tools hence its ticker, CRM. It operates through the following business segments: Platform; Service; Sales; Marketing & Commerce; and Professional Services & Other. salesforce.com currently has a market cap of $215 billion and a long-term growth rate of 15.2%. Over the next here years EPS, Sales, and Net Income are projected to increase by 10%, 18%, and 20%, respectively. In the Application Software industry, salesforce.com is the 3rd largest player with an 8% market share. Just over 70% of its total revenue comes from the Application Software industry, the remaining 30% is generated from salesforce's design and engineering division. Salesfore.com generated $21.3 billion in revenues in 2021, of which 66% was earned in the United State, and $4 billion in net income. Salesforce.com has developed a reputation for large acquisitions; they paid $14.7 billion for Tableau Software in 2019 and $26.2 billion for Slack Technologies in 2020. Currently, more than 1/3 of salesforce's assets are goodwill thanks to the large premiums they paid on their recent acquisitions. We anticipate salesforce will remain a major player in the industry and will continue to make strategic acquisitions as they do not have to worry about any anti-trust lawsuits.[1, 9]



Source: FactSet

International Business Machines Corp (IBM)

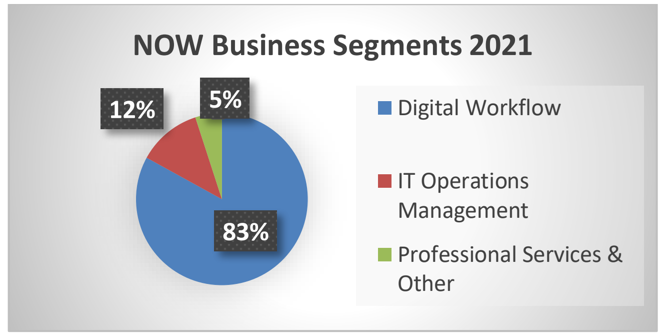
IBM was founded in 1911 and is headquartered in the United States. Currently, IBM has a market cap of $123 billion, a long-term growth rate of 9.5%, and controls 5% of the Application Software market share. IBM operates through the following segments: Global Technology Services, Cloud & Cognitive Software, Global Business Services, Systems, and Global Financing. Sales, Net Income, and EPS have all declined in recent years but are all projected to increase over the next three years. IBM is the only major player in the Software – Application industry with a hold rating, all the other major players have either Buy or Overweight ratings.



Source: FactSet

ServiceNow, Inc (NOW)

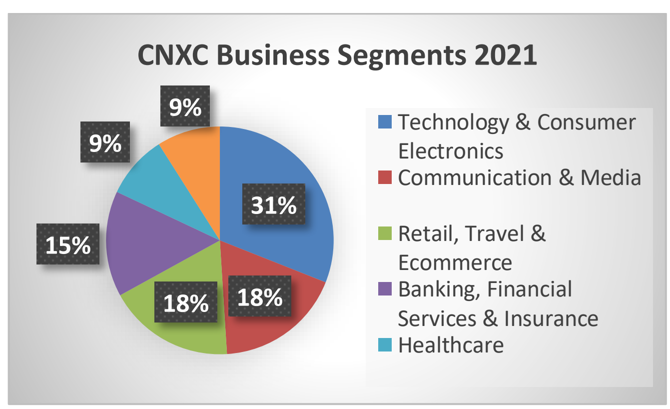
ServiceNow is a cloud computing solutions firm operating in the three major segments: Digital Workflow; IT Operations Management; and Professional Services with 83% of revenues coming from Digital Workflow. It was founded in 2004 and is based in the United States. ServiceNow has a market cap of $115 billion and generated $5.9 billion in revenues in 2021, all of which came from the Application Software industry. Currently, ServiceNow has a 3% market share making them the 5th largest player in the industry. Looking forward, ServiceNow has a long-term growth rate estimate of 31.4% and is expected to grow EPS by an average of 27% over the next four years. Sales and Net Income are also projected to grow over the next four years with an average YoY increase of 25%. With a P/E ratio of 573x, the market has already priced in huge growth over the coming years. Some of this growth is thanks in part to the six acquisitions in 2021 valued at over $300 million which is a new high in terms of acquisition value for the firm. With such high levels of growth priced in, if ServiceNow misses on earnings or gives a less optimistic outlook for coming quarters, expect the stock to have a sharp decline.[1]



Source: FactSet

Concentrix Corporation (CNXC)

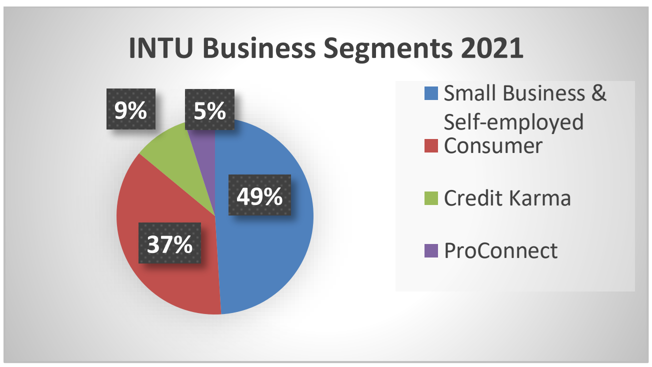
Founded in 1973, Concentrix is a US-based customer experience and solutions technology provider. It operates in six main business segments, the largest of which is Technology & Consumer Electronics, accounting for 31% of total revenues. In 2021 Concentrix generated $1.5 billion in revenue and accounted for 3% of the Application Software industry. Over the next two years, Sales, EPS, and Net Income are projected to grow 13%, 15%, and 20%, respectively. With a P/E ratio of 16.4x and a long-term growth rate of 14.2%, Concentrix seems to be undervalued given its high growth estimates. Concentrix is an outlier in the industry in that fact that most of its revenues do not come from the United States. Instead, 24% of its revenues are generated in the Philippines followed by the US with 16%. Half of its total revenues are generated in emerging markets and as these markets grow Concentrix is positioned perfectly to increase its market share.[1]



Source: FactSet

Intuit Inc. (INTU)

Intuit Inc. was founded in 1983 and engages in the provision of business and financial management solutions. Its revenues are derived from the four main business segments: Small Business & Self-employed; Consumer; Credit Karma; and ProConnect. Intuit only operates in the United States and derives 49% of its revenues from its Small Business & self-employed business segment. With only operating in the United States, it is impressive that Intuit can capture a 2.5% market share in the Application Software industry and generate $9.6 billion in revenues. Intuit has a relatively high P/E ratio of 70.2x and a long-term growth rate of 18.1%. This high PE multiple is justified as EPS, Sales, and Net Income are projected to have average growth over the next three years of 19%, 19%, and 21%, respectfully. Similar to ServiceNow, the market has priced in high growth over the coming years and if Intuit can not meet the expectations then the stock price will likely trend down.[1]

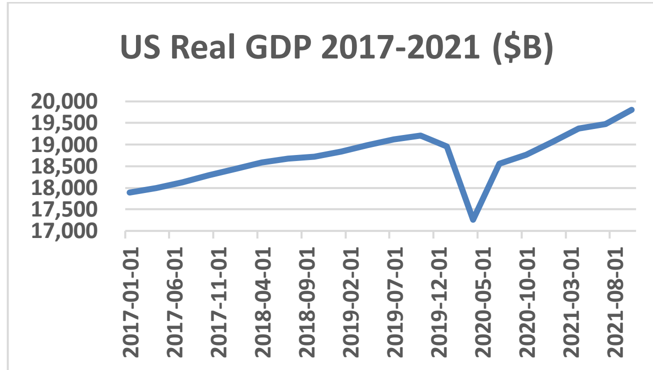


Source: FactSet

ECONOMIC OUTLOOK

Real GDP

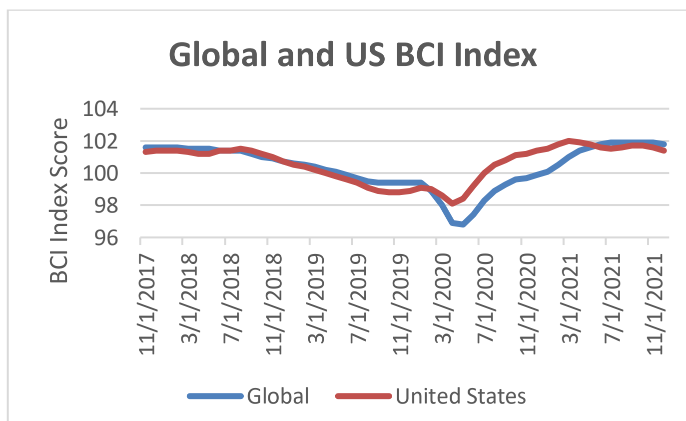
The global economy is in a weaker position than previously expected due to high infection rates of the Covid-19 Omicron variant. Many countries are reimposing border restrictions and rising energy costs are disrupting supply chains. Global growth is expected to slow to 4.4% in 2022, down from 5.9% in 2021.[12] The US saw Real GDP increase from -3.4% in 2020 to 5.7% in 2021. Like the global economic outlook, the US Real GDP is expected to slow to a growth rate of 3.9% in 2022 followed by 2.3% and 2.0% in 2023 and 2024, respectively. 2020 was an exceptionally back year in terms of Real GDP which led to an abnormally high growth rate in 2021. So, even though GDP is slowing, it is still above average, and the economy is expected to remain relatively strong compared to pre-pandemic levels throughout 2022.[11]



Source: FRED

Business Confidence Index

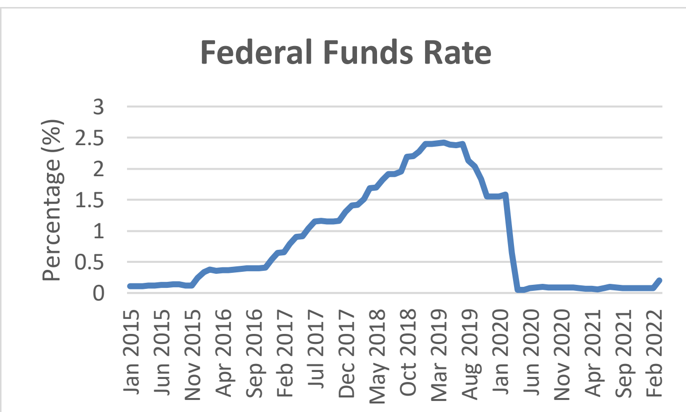
The Business Confidence Index (BCI) measures future developments, production numbers, and stocks of finished goods. It is used as a gauge to predict turning points in the economy. Numbers above 100 suggest increased confidence in near future business performance, and numbers below 100 indicate pessimism towards future performance. Currently, both the US and Global BCI Indexes are above 100 suggesting confidence in the economy.[14]



Source: OECD

Interest Rates

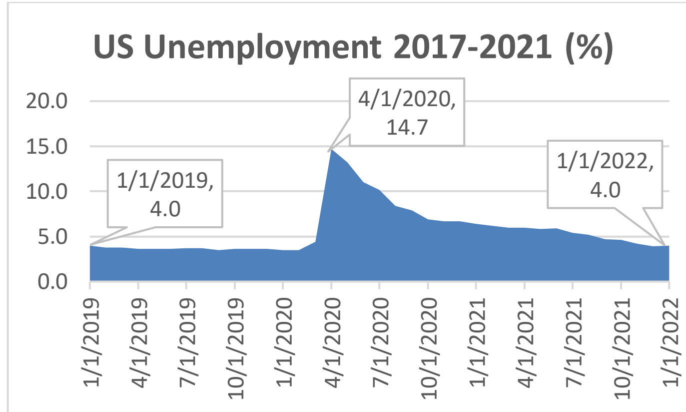
Interest rates have a major impact on the global economy as they impact the costs of borrowing and lending. During the height of the Covid-19 pandemic, the United States Federal Reserve brought the Federal Funds Rate (FFR) down to a range of 0.0% to 0.25%. The federal funds rate is the rate at which banks can borrow from each other. It sets the benchmark for all fixed income instruments, mortgage rates, and currencies. These factors make it the most important interest rate in the world. Currently, the FFR is 0.5% but the Federal Reserve is expected to increase rates five times this year to around 1.5%. The reason for raising rates is to combat inflation and slow down our booming economy which has exploded in growth thanks in part to an increased money supply. Even though the Federal Reserve has good intentions when raising rates, higher rates can lead to short-term declines in growth. This decline in growth could lead to companies hoarding cash and limiting capital expenditure. This would lead to fewer new customers for the Application Software industry. Raising rates can often scare the market but if the Federal Reserve must raise rates this indicates that the economy is strong in the first place. This strong economy is not going to grind to a half due to a few small rate hikes. These rate increases are intended to slow not stop the economy. The Federal Reserve targets an inflation rate of 2% and at the end of 2021, it was at 7.0%. This means the economy is well above expected inflation levels and needs to be reined in.[3, 10, 11]



Source: Statista

Unemployment

Before the pandemic unemployment numbers had been slowly declining. In April of 2020, unemployment peaked at 14.7%. Since then, it has declined steadily and is now right around pre-pandemic levels. There is some controversy as to if this number is accurate as many people have left the labor market due to early retirement or working gig jobs. Since these people are no longer counted as participants in the labor market this skews the unemployment rate. Low unemployment creates a tight labor market which is forcing employers to pay higher wages to attract new workers. Employers are also being forced to raise wages for existing employees to keep up with the high inflation levels.[13]



Source: Bureau of Labor Statistics (BLS)

KEYS TO MONITOR

Headwinds

- High levels of growth spurred by the pandemic forced businesses to move operations to cloud-based applications
- New investments from start-ups are leading to increased innovation and M&A activity
- Digital investments are taking precedent over physical ones as workers continue to work from home

The Application Software industry's main advantage is its high growth projections over the next couple of years. In 2022 and 2023 sales are forecasted to grow by 18%, and 15%, respectively. As more companies make the shift to cloud-based platforms, this increases the total addressable market. The industry also has a good balance of veteran players but still allows for start-ups to expand. Even if new start-ups are bought by existing players, this is still adding value and innovation to the industry.

Tailwinds

- Covid variants arise and force companies to limit capital expenditures
- Interest rates rise faster than expected scaring the market

- Regulators crack down on big tech and implement radical new regulations

The Federal Reserve has made it abundantly clear that they plan to raise interest rates come March. The market has this priced in but if the fed raises rates too high too fast, this will panic the market and hit high multiple technology companies the hardest. Also, if Covid infections rise, and businesses get nervous and hold onto their cash, this could lead to a slowdown in sales.

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