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Capex in the post-Covid era

4 March 2022

- In the US, capital investment by businesses is recovering rapidly, with a notable increase in intellectual property (IP) investment.
- In Japan, the recovery in capital investment has been slower, but sales of software development and programming in the information services industry, which could be included within the field of IP investment, have been growing at a rapid pace.
- While the long-term trend in IP investment as a percentage of GDP shows that Japan has outperformed the US, this does not seem to have contributed much to productivity growth. A lack of human capital on the "user side" is a likely issue for Japan today.

Real GDP growth rate in the United States was 5.7% in 2021, which was a significant rise, compared with 3.4% contraction in the previous year. In terms of demand components, the largest contribution came from consumer spending, which rose by 7.9%, benefiting most from fiscal support, but business investment also remarkably rose as much as 7.4%.

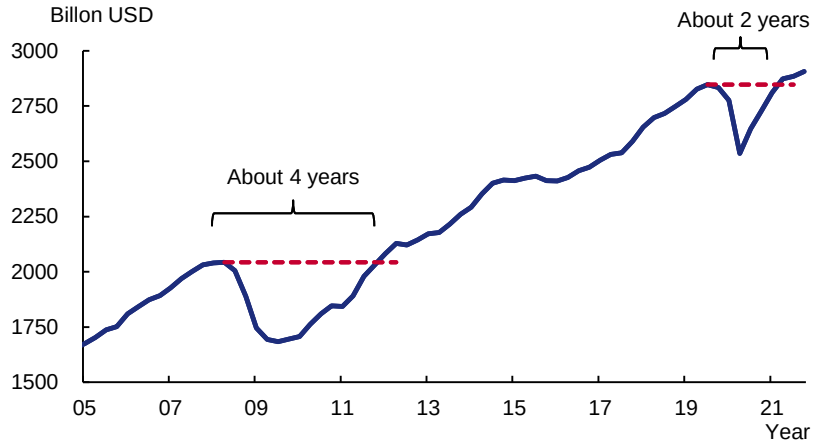
In real terms, in the April-June quarter of 2021, business investment exceeded its pre-Covid peak, which was achieved in the July-September quarter of 2019. It took less than two years to regain the pre-Covid level, which is about half the time it took at the time of Global Financial Crisis (GFC), when it took about four years to regain the pre-crisis peak (Figure 1).

We believe that primary reason for the faster recovery this time is the swift provision of major fiscal support, which meant that the material economic impact from the crisis manifested mainly on the supply side, without breaking down the demand side.

Hitoshi Asaoka
Senior Strategist

"Rapid recovery in business investment in the US"

Figure 1: US Real Private-Sector Capital Investment



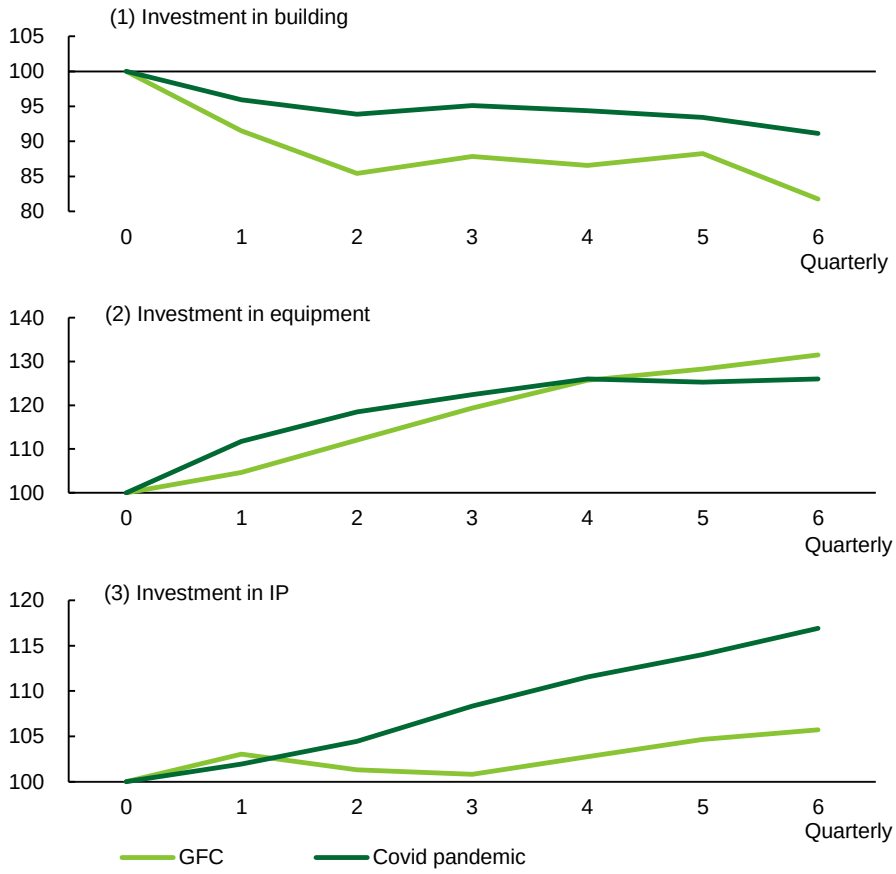
Source: Refinitive
Period: Quarterly data from 1Q 2015 to 4Q 2021
Note: Real seasonally adjusted

Figure 2 shows that private-sector capital investment can be broken down into three categories; (1) investment in building (i.e., plants/factories), (2) investment in equipment (i.e., machine tools for manufacturing, transportation equipment such as cars and trucks used in various industries including logistics, as well as communication equipment such as PCs), and (3) investment in IP (i.e., spending on software and R&D - so-called intangible assets.)

The key takeaways we see from Figure 2 include (1) investment in building declined both during the GFC and the Covid pandemic and there have been no signs of a recovery up until the October-December quarter of 2021, (2) while investment in equipment has been on an upward trend in the wake of the Covid outbreak, the pace of increase has so far been similar to that of the GFC. While supply constraints due to supply chain disruption are likely to have led to a greater demand for the equipment investment than at the time of the GFC, manufacturers seem to have been struggling to produce equipment themselves due to supply chain issues, and (3) IP investment accounts for around 40% of private sector capex, but the pace of increase this time has been noticeably faster than during the GFC.

"Investment in intellectual property has increased significantly since the Covid pandemic"

Figure 2: US capital expenditure by type of investment



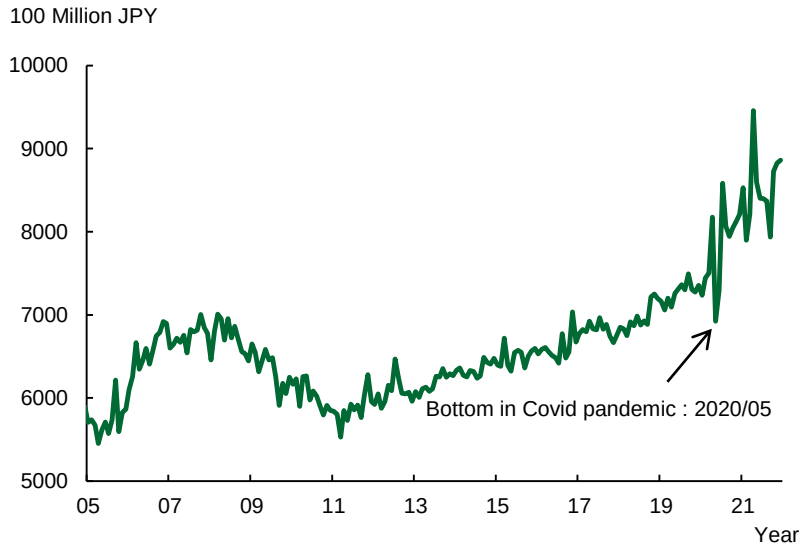
Period: Quarterly data from 3Q 2009 to 1Q 2011(GFC)
Quarterly data from 2Q 2020 to 4Q 2021(Covid pandemic)
Source: Refinitive
Note: All figures are in real terms and indexed at the bottom point of real private-sector capital investment as 100

We believe that the rapid recovery in IP investment in the US can be attributed to remote working, which has expanded across a wide range of industries in response to the Covid pandemic, and to the introduction of automated systems to provide non-contact services and manpower shortages in production and other areas. These technologies were available prior to the pandemic, although investments have only made as companies adopt them out of necessity

In Japan, as of Q4 2021 the recovery in business investment has been slow, with real private-sector capital investment falling by 0.7% from a year ago, marking the second consecutive year of negative growth. We see this as due to the lack of massive fiscal support present in the US and supply constraints.

Looking at the monthly trend of software development and programming sales in Japan's information services sector (Figure 3), after falling sharply in the wake of the Covid pandemic, as at the end of 2021 they remain at a much higher level than the pre-Covid environment. The long-term trend shows that the pace of growth has been increasing since 2011 and accelerated somewhat since around 2017. Digital transformation (DX) and similar concepts (such as the promotion of IT) have been around for a long time, but it was not until 2018 that the Ministry of Economy, Trade and Industry (METI) published its "Guidelines for Promoting Digital Transformation" in Japan, although the movement to promote DX in the private sector was gradually spreading before that.

Figure 3: Software Development and Programming Sales in Japan



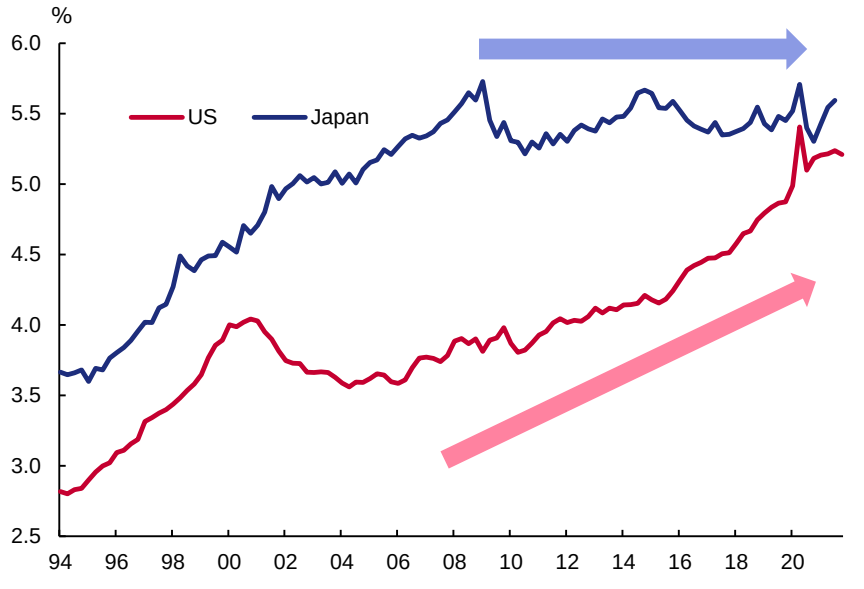
Period: Monthly data from Jan. 2005 to Dec. 2021
Source: NIKKEI NEEDS FInancialQUEST
Note: Nominal seasonally adjusted

While it is difficult to compare international IP investment levels objectively due to differences in data between countries, Figure 4 shows the long-term trend of IP investment (as a percentage of nominal GDP) in Japan and the United States. In both Japan and the US, IP investment increased significantly during the “IT revolution” in the late 1990s, and in Japan it continued to increase until just before the GFC. However, since then, IP investment has remained close to flat for an extended period of time.

“Comparison of long-term trends in IP investment between Japan and the US and challenges for Japan”

In the US, on the other hand, IP investment has been growing consistently faster than GDP since the mid-2000s. While this can be attributed to a variety of factors, in the US it is likely to have been largely due to the contribution from tech giants, which have significantly increased their presence in the global economy over this period.

Figure 4: IP Investment as a percentage of nominal GDP



Period: Quarterly data from 1Q 1994 to 4Q 2021 in US, to 3Q 2021 in Japan
Source: Refinitive

The gap in economic growth between Japan and the US widened during this period, despite the fact that Japan's level of IP investment as a percentage of nominal GDP has consistently exceeded that of the US. While there may be many other factors at play, such as Japan's declining labour force, this would suggest that IP investment in Japan may have been considerably less effective in raising productivity.

It is still fresh in the minds of many that the previous Suga administration was concerned that despite the large amount of investment in systems and maintenance costs, not only in the private sector but also in the public sector, these investments were not contributing to the improvement of benefits for the public. There is also a serious shortage of DX professionals in both the public and private sectors. The core of the issue is most likely to be the literacy and skillset of the organisations and individuals who "use" the systems and IT equipment. We believe that it is important for Japan to invest in human capital (not included in the current GDP), which is one of the most important intangible assets.

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