

Special Commentary — June 30, 2021

How Transitory? Structural Forces and the Inflation Outlook

Summary

The recent bout of price increases that has driven the PCE deflator to a 13-year high is believed to be transitory by the Federal Reserve. Not only are current bottlenecks expected to ease as the reopening of the economy moves further along, but FOMC members have been cautious to presume that the structural forces holding down inflation before COVID have fallen to the wayside. Despite the record-long cycle and tight labor market, inflation struggled to meet 2% on a sustained basis over the past business cycle due in large part to forces beyond the Fed's influence.

In this report, we unpack the major structural dynamics that thwarted inflation from consistently reaching 2% prior to the pandemic. The degree to which these forces reassert themselves will influence if inflation easily falls back to the Fed's target or causes the current 2%+ environment to be more persistent. As summarized below, *we see the disinflationary effects of these secular forces easing in the years ahead.*

- **Healthcare:** *Inflationary*

- The policy-induced disinflation of the past cycle from the Affordable Care Act is behind us, and further policy changes will likely be less revolutionary. Meanwhile, pent-up demand for medical care points to higher usage, while compensation costs in this labor-intensive sector are running above the early 2010s' pace.

- **Globalization & Supply Chain Management:** *Inflationary*

- Globalization showed signs of topping out before the pandemic. More nationalistic trade policy on top of current logistical challenges will likely lead to a reassessment of far-flung global supply chains and just-in-time inventory models. Such de-risking will come at a cost.

- **Aging Demographics:** *Inflationary, but limited*

- A larger share of the U.S. population is now dis-saving, supporting demand but not contributing to production. Slower growth in the domestic working-age population will not be as easily offset by the global labor supply as it was in prior years, leading to a tighter labor market and higher wage inflation. Rising longevity and the need for greater savings, however, should limit the inflationary effect.

- **Technology & Productivity:** *Coin-Toss*

- Well-known digital-based platforms are raising prices to finally become profitable, while e-commerce penetration is poised to slow. However, an increase in business dynamism and high-tech investment suggests productivity growth could take off.

The upshot: It is not just the FOMC's more tolerant stance on inflation under its new framework or a rebound in inflation expectations that is likely to lead to a higher inflation environment after the pandemic. The current *degree* of inflation is unlikely to persist beyond the next 12 months or so, consistent with the FOMC's "transitory" characterization. However, we believe inflation will not fall as easily back to 2% as Fed officials and the consensus seem to expect, given that many of the forces that stymied inflation from reaching its target last cycle were beginning to shift before the pandemic. *A combination of higher inflation and higher interest rates is therefore likely over the next few years.*

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Beyond the Post-Pandemic Flurry, Will Structural Forces Lift or Weigh on Inflation?

The Federal Reserve has staked its current easy-policy stance on the presumption that the current jump in inflation will be temporary. The thinking goes as follows: Inflation is being driven by the unique circumstances of the COVID pandemic drawing nearer to an end. A tsunami of pent-up demand for services has been unleashed at the same time demand for goods remains solid, thanks to substantial fiscal support and elevated saving over the past 15 months. The supply-side of the economy is struggling to keep up, pushing prices higher. But as acute as constraints may currently be, they should ease over the coming months as supply chains adjust, workers return to the labor force and the initial torrent of spending subsides. Inflation—currently at a 13-year high of 3.9% according to the PCE deflator (Figure 1)—should drop back after the initial reorientation to the post-COVID environment.

The Fed's reluctance to give in to heightened fears around persistently higher inflation stems from its experience over the past cycle. Inflation struggled to meet the FOMC's target of 2% for any sustained period, even late in the cycle when the labor market was hot by most accounts. The weakening of the relationship between the labor market and inflation (commonly referred to as the Phillips Curve) has been attributed to a number of structural forces beyond the reach of monetary policy. Nearly 60% of the PCE deflator is made up of categories with an insignificant relationship to slack in the economy.¹ While prices for *cyclically* sensitive goods and services were rising around 3% prior to COVID, prices among *acyclical* items were growing less than 2%, keeping a lid on overall inflation (Figure 2).

Figure 1

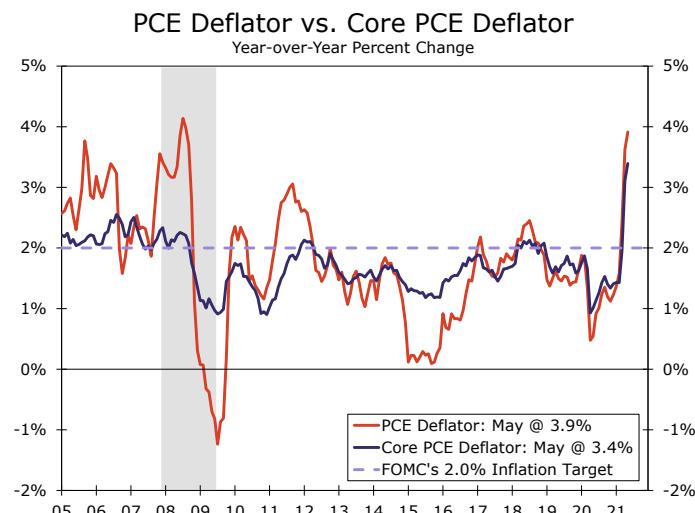
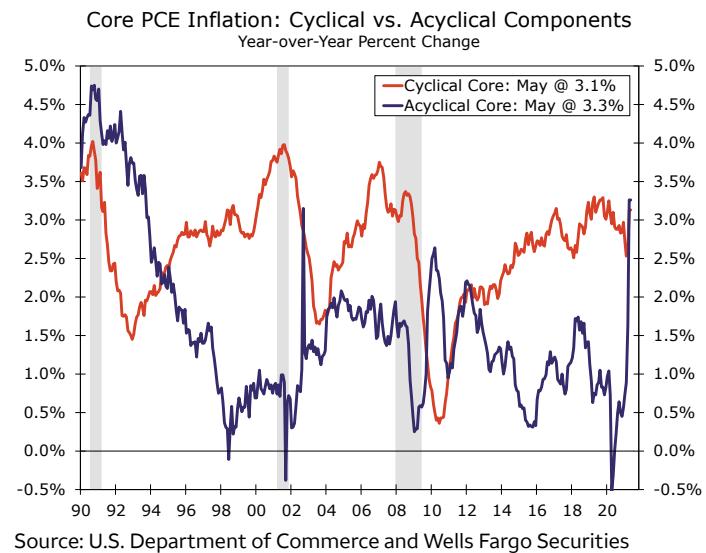


Figure 2



The Federal Reserve has been cautious to assume these forces have fallen completely to the wayside since the pandemic. Whether the structural forces beyond the Fed's control reassert themselves as the economy moves beyond COVID will influence if inflation easily falls back to the central bank's target, or if the 2%+ environment proves more persistent. In the remainder of this report, we review the major secular forces that were holding down inflation over the past cycle and examine whether they are likely to persist over the coming years.

Healthcare: Inflationary

Among the clearest contributors to subdued inflation in the past cycle was historically weak healthcare pricing. Healthcare prices increased at an average annualized rate of 1.7% from 2010 to 2019. With an estimated weight near 20% of the core PCE deflator, *healthcare services alone could explain around 70% of the deviation in core PCE inflation from its long-term pre-Great Recession trend last cycle* (Figure 3). At the center of the slowdown was a major reshaping of U.S. healthcare policy. The Affordable Care Act (ACA) was passed in 2010 and phased in over the next four years. Its implementation put downward pressure on healthcare prices during these years, both directly through reimbursement cuts

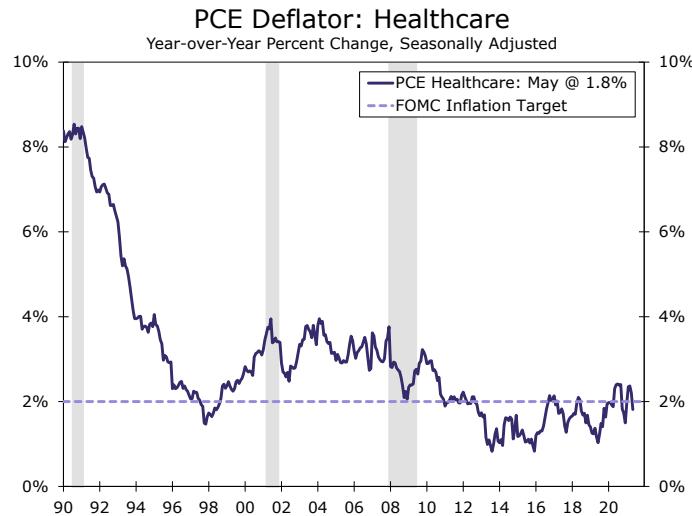
Nearly 60% of the PCE deflator is made up of categories with an insignificant relationship with slack in the economy.

Healthcare services explained 70% of the deviation in core PCE inflation from its long-term trend over the past cycle.

and increased enrollment in Medicare and Medicaid programs and indirectly by influencing the private insurance market.²

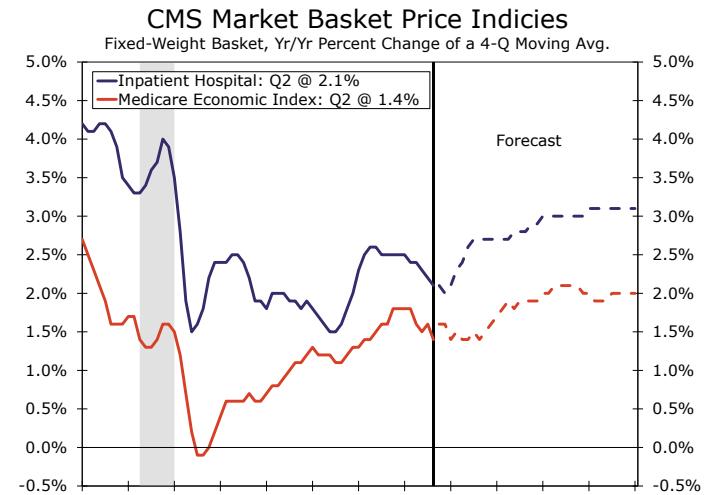
Some policies instituted during this timeframe continue to affect prices today, such as the “multi-factor productivity” adjustment, which decreases hospital payment growth to account for economy-wide productivity. But many one-off adjustments have since rolled off. The initial uptake in Medicare enrollments shifted the composition of healthcare spending toward the lower, slower growing payment option.³ Meanwhile, the Budget Control Act of 2011 included one-time cuts to Medicare reimbursement rates under sequestration, while the nadir of healthcare inflation in 2015 can be traced to reduced Medicaid payments.

Figure 3



Source: U.S. Department of Commerce and Wells Fargo Securities

Figure 4



Source: Centers for Medicare & Medicaid Services and Wells Fargo Securities

With the ACA adoption fully digested, the policy-induced disinflation of the past cycle is behind us, and healthcare inflation has already turned higher. *While the Biden administration has proposed an expansion to health insurance tax credits under the American Families Plan, its effect on the healthcare system does not seem to be as revolutionary as the ACA, if it is passed at all.* Meanwhile, Washington's appetite for budget cutting has shrunk over the past decade, and state budgets have emerged from the pandemic in surprisingly good shape. That makes the across-the-board cuts to reimbursement rates via sequestration unlikely and reduces pressure to trim reimbursement rates.

While policy plays an outsized role when it comes to healthcare inflation, prices are still influenced by market forces. Policymakers are the final arbiters of reimbursement rates for government insurance programs, but the Centers for Medicare & Medicaid Services' (CMS) pricing baskets serve as a starting point. As illustrated in [Figure 4](#), CMS projects healthcare inflation to trend higher this decade. The “market baskets” put together by CMS rely heavily on the Employment Cost Index (ECI) and the Producer Price Index (PPI) for healthcare. More than three-quarters of the price adjustment for the hospital payment update can be attributed to the ECI alone.⁴

To that end, labor costs and usage still matter. The healthcare industry has not come under the same degree of wage pressure as other close-contact industries, such as leisure & hospitality, but labor costs have already rebounded since COVID and are running above the pace set in the early 2010s.

Usage, of course, plummeted with the pandemic, as evidenced by the 35% drop in healthcare spending between February and April of last year. With expenditures still remaining 1.5% below pre-pandemic levels through May, providers may push for somewhat stronger charges to recoup the uncharacteristically large drop in revenues.

Another upside risk to healthcare inflation ahead is the unforeseen toll that skipped medical visits may take on coming usage after appointments were pushed off during the pandemic. As of the May 26-June 7 Household Pulse Survey, 30.5 million people were still “delaying getting medical care because

Less revolutionary policy changes suggest healthcare's disinflationary storm last cycle looks unlikely for a repeat.

of COVID,” potentially exposing people to more serious and expensive treatments down the line. The decline in Americans with health insurance due to job losses is likely to temper usage, but despite the historic drop in employment, the drop in insurance coverage does not appear to be as stark as during the Great Recession. During that downturn, job losses were skewed toward smaller firms and industries that were less likely to have health benefits to begin with, according to the CBO.⁵ All told, healthcare’s disinflationary storm last cycle looks unlikely for a repeat.

Globalization & Supply Chain Management: Inflationary

Fundamental shifts surrounding global trade are also likely to support higher inflation ahead. The rapid rise in globalization beginning in the mid-1980s allowed businesses to optimize supply chains and shift production to cheaper locations, which, in conjunction with more competition and ever-improving technology, exerted downward pressure on consumer prices. At the same time, the increased integration of the world economy has made inflation more sensitive to global factors like the world output gap and commodity prices.⁶

Globalization was giving indications of topping out over the past decade (Figure 5), however, and economic nationalism was rising widely even before COVID. The United Kingdom voted to leave the European Union in 2016, and beginning in 2017, the United States and China steadily ratcheted up tariffs and other barriers on the other. By 2019, the average U.S. tariff rate jumped to its highest level since the mid-1990s. The cost of import taxes were passed on to consumers. The year-ago rate of the core goods CPI rose to its highest rate in seven years, with price increases occurring in many categories of goods where U.S. imports were exposed to tariffs (Figure 6). The Congressional Budget Office estimated the U.S.-China tariffs cost the average U.S. household \$1,277 per year.⁷ The more contentious trade environment leading up to the COVID crisis weighed on integrated supply chains and international investment. In fact, a recent report from the United Nations estimates that the U.S.-China trade war has undone three-to-five years worth of growth among global value chains.⁸

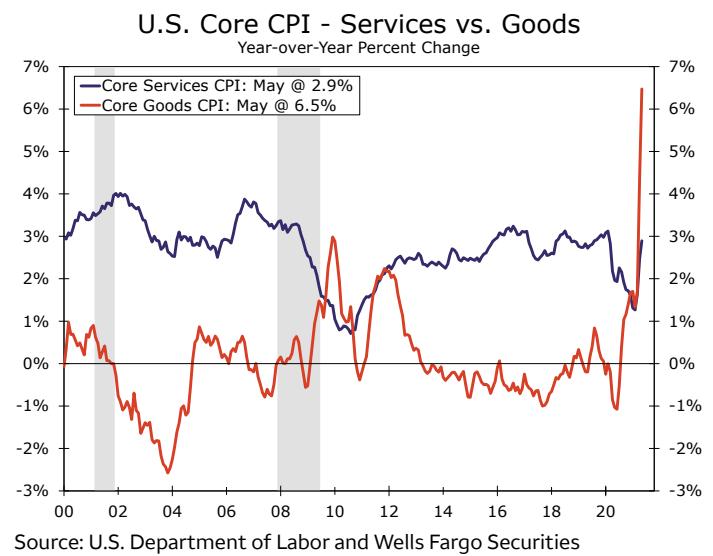
Economic nationalism was rising widely even before COVID.

Figure 5



Source: The World Bank and Wells Fargo Securities

Figure 6



Source: U.S. Department of Labor and Wells Fargo Securities

Despite a change in administration, President Biden has been in no rush to remove tariffs imposed by his predecessor. The U.S. maintains tariffs on roughly 80% of Chinese imports, while China has tariffs on just about all imports from the United States. The Biden administration, however, has begun to make progress in mending trade relations with some of America's allies, demonstrated most recently by the agreement between the U.S. and E.U. to suspend tariffs related to the fight over aircraft subsidies. We expect the Biden administration to be more cooperative and less confrontational with America's allies but maintain a “hard-line” approach toward China. *A complete reversal to a pre-Trump era of trade policy is unlikely, and the utilization of tariffs or trade barriers may remain common.*

But it is not just economic nationalism that could mute the disinflationary impact of trade going forward. Trade tensions in combination with the logistical nightmares of the pandemic are causing

a rethink of global supply chains. The Biden administration has initiated a review into critical supply chains (e.g., medicines, advanced batteries, certain minerals, semiconductors) after shortages of key inputs caused production lines to gum up and the country to scramble for essential goods this past year.

More generally, the pandemic has demonstrated an array of risks across supply chains. The strains of far-flung supply networks may lead businesses to consider on-shoring or near-shoring some operations, and survey evidence suggests greater urgency to regionalize supply or bring supply closer to home.⁹ That may improve resiliency down the line, but it is also likely to add to costs. Changes cannot be made overnight, and many firms will still need to rely on international relationships for key inputs not readily manufactured at home. Severe shortages of inputs, as seen in the auto industry, may also put an end to the wide-scale use of just-in-time inventory strategies. *Higher levels of inventories and more diversified supplier networks might mitigate risks of future disruptions but will also come at a cost.*

In the end, the relationship between globalization and inflation isn't entirely straight forward. After all, many goods and most services are still produced domestically with little direct foreign competition. For example, end-use consumer goods imports account for just a little over 15% of total U.S. goods consumption.¹⁰ Although the share is larger for manufacturers, which import about 20% of direct inputs used in the production process, these figures make it clear that not all goods are necessarily directly exposed to competitive pricing.

Looking ahead, we expect the downward impulse that globalization exerted on inflation the past few decades to subside. With a more contentious trade environment remaining and firms considering reorienting supply chains closer to home, less competition and increased production costs could bid up goods' inflation, or at least not provide the same disinflationary effect seen during the days of rapid globalization.

Demographics: Inflationary, but Limited

Population aging is another way in which the tide may be turning on inflation, independent of monetary policy. The share of the U.S. adult population over age 65 has grown to 20% today from 16% in 2010, and is set to rise to 25% by the end of the decade. As a result, *a larger share of the population is now dis-saving, supporting demand but not contributing to production.*

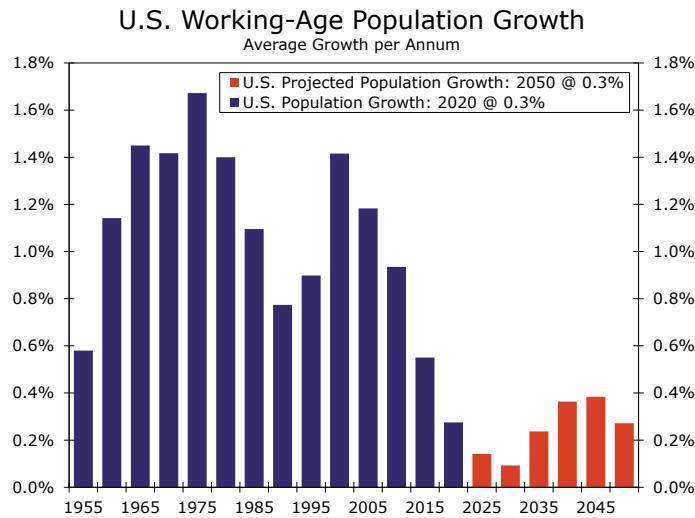
The rise in the old-age dependency ratio reflects increasing longevity as well as slower growth in the working-age population (ages 15–64). In the United States, growth in the working-age population has slowed from an average of 1.1% per annum in the first decade of the 2000s and is estimated to rise just 0.1% during the current decade (Figure 7). A tighter labor market and higher wage inflation appears to be in the offing without a substantial increase in labor force participation or immigration to offset. Both of those appear to be a tall order. Labor force participation among women could rise to more fully match the rate of men, but 75% of the gap that existed in 1960 has already closed. Meanwhile, the political environment looks less conducive to immigration bolstering the growth rate of the U.S. labor supply.

At first glance, the experience of Japan over the past few decades makes the link between aging and stronger inflation look rather tenuous. But the global labor supply was growing rapidly with the opening of China. There does not appear to be a similar escape valve for lower-cost labor now that China has become more fully integrated with the global economy, and China's own working-age population is falling outright (Figure 8). Although growth in working-age populations in India and Africa should remain fairly solid, growth in the number of workers worldwide is set to slow further in coming years.

Strains on supply may lead firms to reconsider far-flung supply networks and just-in-time inventory strategies.

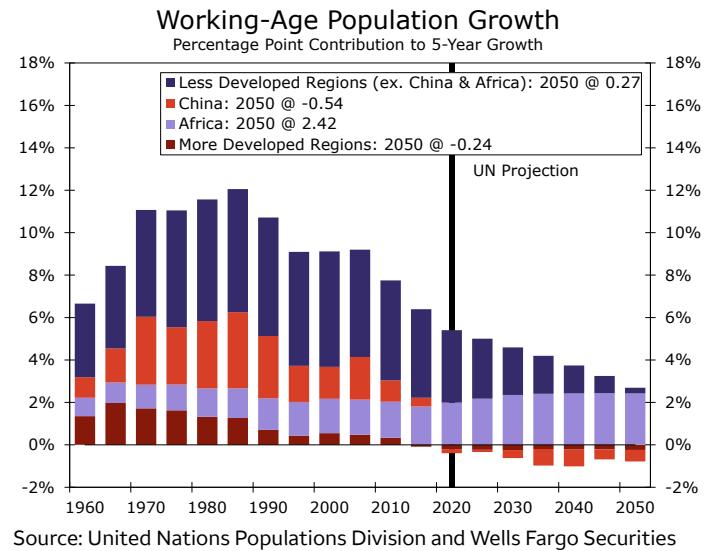
Slower growth in the U.S. working-age population will not be as easily offset by the global labor supply, leading to higher wage inflation.

Figure 7



Source: United Nations Populations Division and Wells Fargo Securities

Figure 8



Source: United Nations Populations Division and Wells Fargo Securities

That said, the impacts of demographics remain far from clear-cut. While a larger share of the population is no longer saving, rising longevity supports a higher rate of saving among the working-age population. Some research has found that higher old-age dependency is indeed linked to higher inflation,¹¹ although the reason for the higher ratio—lengthening life expectancy versus a falling birthrate and weaker working-age population growth—matters.¹²

Overall, we believe that the demographic changes under way *on their own* are supportive of a higher inflation environment. However, the upward thrust is likely to be limited. Not only does rising longevity increase the need for saving, but labor's sway is likely to be curbed by increased concentration among employers and lower rates of unionization. Political dynamics must also be taken into account. With a greater share of Americans living on fixed incomes, the Federal Reserve could face more indirect pressure to keep inflation low (and interest rates higher, all else equal).

Rising longevity and a need for higher savings should limit the inflationary effect of aging demographics.

Technology: Coin-Toss

Technology that fosters stronger productivity growth is another force thought to have changed inflation dynamics over the past cycle. Higher productivity is one way in which inflation can be held in check, even in a tight labor market; if workers are producing more with less, businesses can afford to pay them higher wages without raising prices. Admittedly, productivity growth was rather anemic in recent years. From 2010 to 2019, labor productivity rose at an annualized rate of 1.0% versus a 2.9% pace from 1995 to 2004 when the economy was reaping the broad benefits of personal computers and other information communications technologies (Figure 9). Although measured rates of productivity growth over the past decade were lackluster, technology was nonetheless transforming markets in a way that was putting downward pressure on prices.

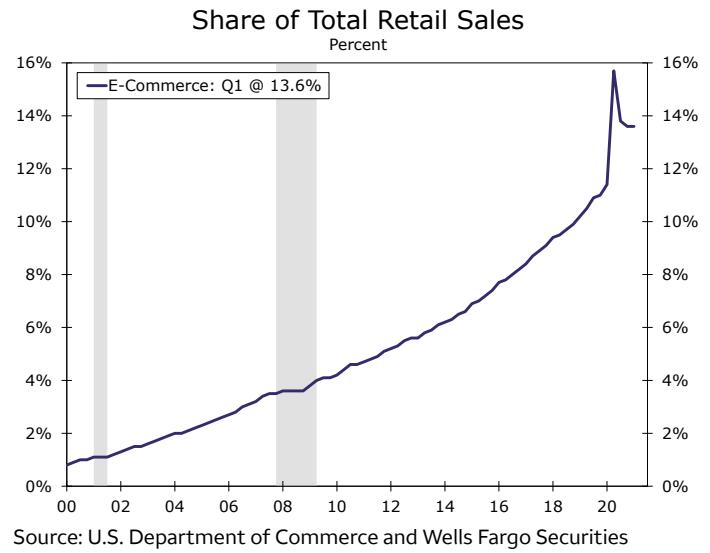
E-commerce more than quadrupled as a share of retail sales since the mid-2000s (Figure 10). Lower overhead without the costs of brick and mortar stores offered one route to lower prices. The scalability through technology, best exemplified through Amazon, has been another. Research has found online prices to be 6% lower than “offline” prices on average.¹³ What's more, businesses' growing online presence has increased price transparency and spurred competition. Technology has not just transformed goods pricing either. Apartment and house hunters can easily compare prices online, and prices for travel have been upended by online search and sharing platforms like AirBNB. The rise of digital platforms and the race to leverage their “network effects” has been another way in which technology has affected pricing behavior. In this “winner take most” environment, scale matters. Market share has been prioritized over profits, often leading to services being provided below cost.

Despite weak productivity, technology transformed markets over the past decade in a way that put downward pressure on prices.

Figure 9



Figure 10



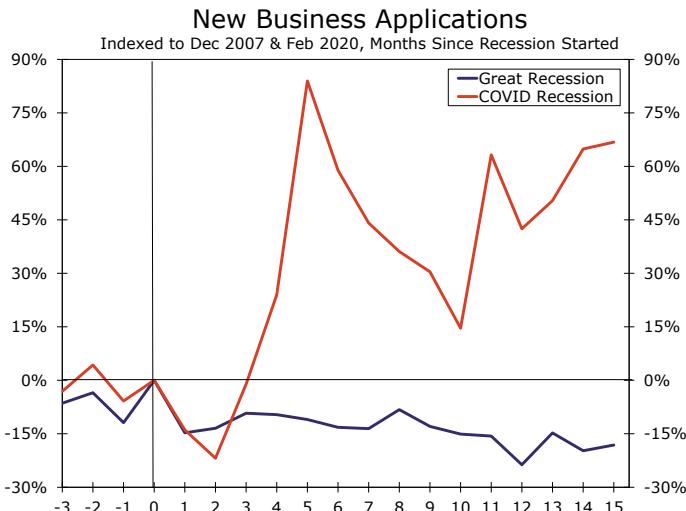
Looking ahead, will technology put downward pressure on prices to the same extent it did before the pandemic? The tide already seems to be turning through some channels. Exhausted investor patience and market maturation are leading to price increases across well-known businesses based off of digital platforms. For example, electric scooter companies Bird and Lime have started to turn a profit after hiking prices, and Uber and Lyft are raising fares and have pledged to become profitable toward the end of this year. Meanwhile, the downward pressure on inflation caused by e-commerce requires sales to move increasingly online, which may be difficult after the rapid rise this past year, or for online prices to grow more slowly than “offline” prices, which has not been the case historically.¹⁴

A bigger question is whether the outlook for productivity growth has changed following COVID. An increase in business dynamism since the pandemic may help. Economists at the Federal Reserve Board estimate the rate at which establishments permanently closed in the first year of the pandemic was about one-quarter to one-third above normal rates.¹⁵ At the same time, new business formation jumped, with the health crisis and fiscal stimulus leaving many individuals with the time and seed money to start a new business (Figure 11).

Higher productivity growth could keep a lid on inflation.

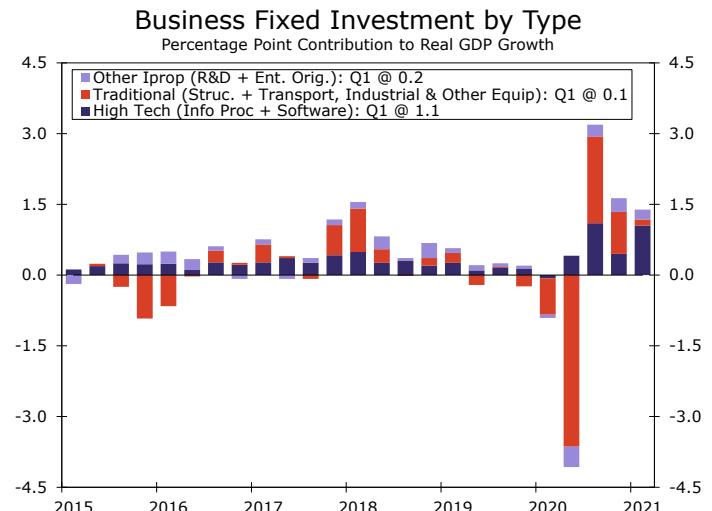
Ground for even greater optimism around productivity growth lies with soaring investment over the past year. Sure, some capital spending was geared toward setting up workers at home and merely duplicated existing capital now idled at the office. However, spending on high-tech equipment and software has continued at an impressive pace in recent months and now sits 18.5% above Q4-2019 levels (Figure 12). The trials of safely staffing businesses in a public health crisis along with the current labor crunch seems to have sped up the push for labor-saving technology. A report from McKinsey found that about two-thirds of businesses were planning to accelerate automation and artificial intelligence following the pandemic.¹⁶ Moreover, as technologies related to automation, machine learning and AI mature, they may be closer to widespread adoption that finally moves the needle on economy-wide productivity growth.

Figure 11



Source: U.S. Department of Commerce and Wells Fargo Securities

Figure 12



Source: U.S. Department of Commerce and Wells Fargo Securities

All told, the disinflationary effect from technology may be poised to ebb in some capacities over the next few years, but there are reasons to think technology could help to keep an even stronger lid on inflation. Forecasting productivity growth, let alone its impact on prices, is notoriously difficult, and therefore, one should tread lightly in making any firm assumptions around future trends.

Conclusion: Higher Inflation for Longer

It is not unusual for prices to fluctuate in the short term to variations in supply and demand, as reflected in the current environment. The underlying trend in inflation is slow moving and not fully at the whim of monetary policy. Fed officials are therefore understandably cautious in assuming that the structural factors contributing to low inflation for the better part of the past decade have not disappeared, and that further down the road these forces could counteract the upward price pressures from today's unique environment.

We agree with the FOMC's outlook that the current *degree* of inflation is transitory, and look for inflation to recede next year. However, *we believe inflation will not fall as easily back to 2% as Fed officials or current consensus estimates expect*. A number of forces that stymied inflation from convincingly reaching 2% during the last cycle were beginning to shift even before the pandemic. In the case of healthcare and global trade, the pandemic looks to have accelerated the transition from disinflationary to inflationary.

While structural factors have helped to keep inflation low in recent years, they can also go the other way. On that front, another factor pointing toward a higher inflation environment, even after supply bottlenecks ease and demand growth moderates, is the Fed's switch to flexible average inflation targeting (FAIT). By tolerating overshoots that push inflation expectations higher, the trend in inflation is likely to be pulled higher. That comes as inflation among acyclical categories has already shot higher (refer back to [Figure 2](#)).

If we are right that structural factors are supportive of a higher inflation environment ahead, then policy will eventually need to be less accommodative, all else equal, to balance out with cyclical pressures. That might not be on the Fed's near-term radar but will need to be considered as the central bank aims for inflation to average 2% over time. *A combination and higher inflation or higher interest rates is therefore likely over the next few years as structural forces turn more inflationary.*

We believe inflation will not fall as easily back to 2%, given a number of forces have already begun to shift from disinflationary to inflationary.

Endnotes

¹ Cyclically sensitive categories are categories in which the difference between unemployment and the natural rate of unemployment has a negative and statistically significant relationship with inflation at the 1% level from 1985-2007. Remaining categories are considered acyclical. See Mahedy, Tim, and Adam Shapiro. 2017. "[What's Down with Inflation?](#)" FRBSF Economic Letter, 2017 for more details. ([Return](#))

² Clemens, Gottlieb and Shapiro. "[Medicare Payment Cuts Continue to Restrain Inflation](#)." Federal Reserve Bank of San Francisco. 2016. ([Return](#))

³ Alexander, Diane. "[The Recent Rise in Healthcare Inflation](#)." Chicago Fed Letter. 2018. ([Return](#))

⁴ "[The Employment Cost Index and the Impact on Medicare Reimbursements](#)." U.S. Bureau of Labor Statistics. 2020. ([Return](#))

⁵ The Congressional Budget Office projected that around 30% of 2020 job losses would result in a loss of employment-based insurance, amounting to 3.9 million people who had lost coverage. But the CBO estimated that a third of those people would gain access via Medicaid and nongroup coverage programs, while another third would still have employment based coverage through a spouse or parent or via COBRA provisions. After those adjustments, 1.3 million would still be uninsured. See "[Federal Subsidies for Health Insurance Coverage for People Under 65: 2020 to 2030](#)." Congressional Budget Office. 2020. ([Return](#))

⁶ Forbes, Kristin, 2019. "[Has globalization changed the inflation process?](#)" BIS Working Papers, Bank for International Settlements ([Return](#))

⁷ "[The Budget and Economic Outlook: 2020 to 2030](#)." Congressional Budget Office. 2020. ([Return](#))

⁸ Shepherd, Ben, 2021. "[Policy Brief: The Post-COVID-19 Future For Global Value Chains](#)." United Nations Development Programme. ([Return](#))

⁹ According to a [study](#) McKinsey & Company conducted in Q2-2020, 40% of 60 senior supply-chain leaders surveyed plan to increase resilience across the supply chain with 40% specifically planning to near-shore and increase their supplier base. Additionally, according to the [2021 Annual Report](#) on the state of North American manufacturing from Thomas, 83% of 542 manufacturers surveyed in March 2021 are 'likely' to 'extremely likely' to reshore (up from 54% in March 2020). ([Return](#))

¹⁰ To calculate the share of goods consumption, we take end-use consumer goods imports as a share of total goods consumption excluding autos & parts. Autos & parts is its own end-use import category, and with a portion of those imports headed to dealers rather than directly to consumers, we've excluded it from consumer goods purchases for a more comparable estimate. ([Return](#))

¹¹ Mikael Juselius & Előd Takáts, 2018. "[The enduring link between demography and inflation](#)." BIS Working Papers 722, Bank for International Settlements. ([Return](#))

¹² Katagiri, Mitsuru & Konishi, Hideki & Ueda, Kozo, 2020. [Aging and Deflation from a Fiscal Perspective](#). Journal of Monetary Economics. 111. ([Return](#))

¹³ Alberto Cavallo, "Are Online and Offline Prices Similar?" American Economic Review 107, no. 1 (2017): 238-303) ([Return](#))

¹⁴ See Bureau of Economic Analysis *Table 7U* for historic price trends between nonstore retailers and "GAFO", which capture the *in-store* prices of an array of goods also commonly sold online. ([Return](#))

¹⁵ Crane, Leland D., Ryan A. Decker, Aaron Flaaen, Adrian Hamins-Puertolas, and Christopher Kurz, 2021. "[Business Exit During the COVID-19 Pandemic: Non-Traditional Measures in Historical Context](#)." Finance and Economics Discussion Series 2020-089rl. Washington: Board of Governors of the Federal Reserve System. ([Return](#))

¹⁶ Lund, S., Cheng, W.L., Dua, A., De Smet, A., Robinson, O. and Saurabh, S, 2020. "[What 800 Executives Envision for the Post Pandemic Workforce](#)." McKinsey & Company. ([Return](#))

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