MARKET INSIGHTS

Market Bulletin

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Taking stock of inventories

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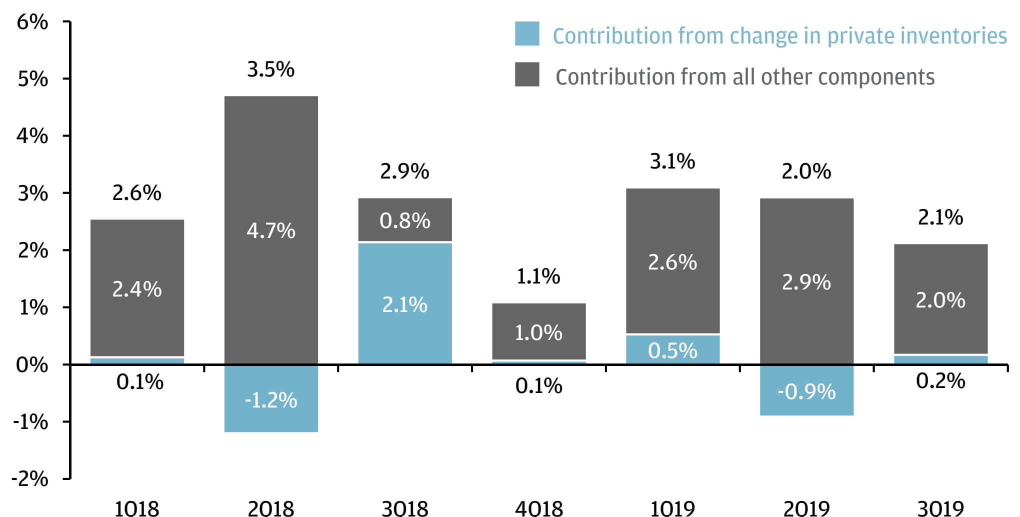
The notorious swing factor

When investors think about gross domestic product (GDP) and its drivers, the components that often spring to mind are consumption, which accounts for the greatest share of GDP, capital expenditures, the drivers of productivity, or perhaps housing, which has a somewhat mixed reputation after the financial crisis. Yet, one of the smallest components with an outsized contribution to the swings in GDP growth is the change in private inventories; in fact, since the fourth quarter of 2007, the change in private inventories has accounted for approximately 21% of the overall variance in GDP growth.

The change in private inventories measures changes in the physical volume of net inventories owned by private businesses, and is the critical lynchpin between the demand for and the production of goods and services. Inventories tend to have a cycle of their own, often growing and contracting several times over the course of an expansion, and exerting a notable impact on economic growth; for example, inventories were responsible for over two-thirds of growth in 3Q18, while in 2Q19, they subtracted -0.9% points from the overall pace of real growth **(Exhibit 1)**.

EXHIBIT 1: Inventory growth tends to be a swing factor for GDP growth
Change in private inventories contribution to real GDP growth



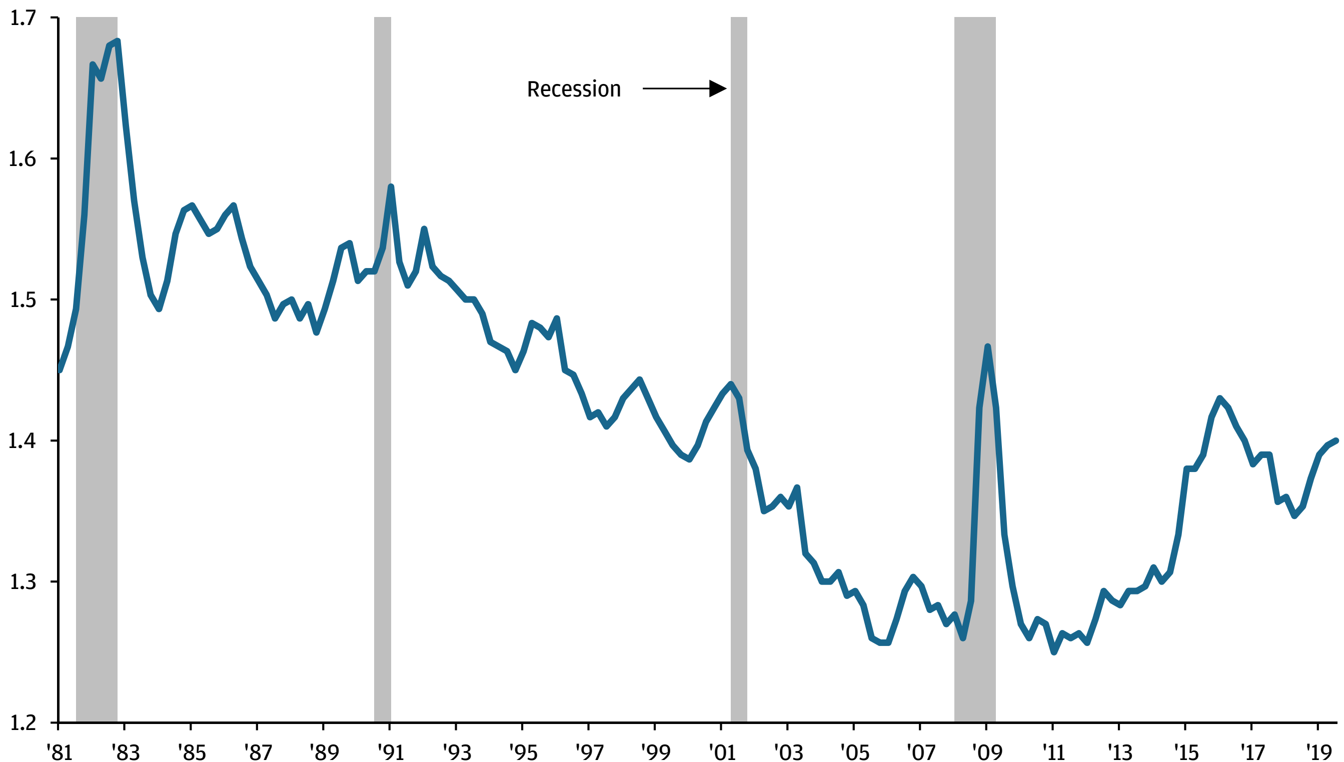
Source: BEA, FactSet, J.P. Morgan Asset Management.

The current mini-cycle seems to be gradually running its course: real private inventories grew by USD 79.8billion in 3Q19, above the cycle average of USD 39.2billion per quarter, but below its average growth rate during the prior four quarters (USD 91.4billion). If inventory growth slows back to its average pace over the coming quarters, that implies a 0.2% drag on the overall pace of growth, while if it falls to its average cycle trough, we expect that drag will detract 0.4%-points from economic growth over the next 4 quarters.

However, the inventory cycle is not as simple as a perfunctory boom and bust. Inventory volatility was much more pronounced in the 1970s and 1980s, but the advent of “just in time” inventory strategies, based on superior methods of handling inventories and estimating demand, has helped reduce the amount of inventory businesses need to hold and brought down inventory volatility. The best manifestation of this is the decline in the inventory to sales ratio, or the average time it takes to convert inventory into goods sold.

This steady decline has only been interrupted during past recessions, when unexpected shocks to business activity caused simultaneous declines in sales and increases in inventory levels. However, a few years into this economic expansion, this ratio curiously began to rise, with the pace of increase accelerating between 2014 and 2016. Some of this may have been due to an increase in energy stockpiling as oil prices fell, coupled with softer demand as growth slowed into the end of 2015. That said, there has not been any reversal in technological advances related to inventory systems or management in recent years, suggesting that both cyclical and structural factors are at play **(Exhibit 2)**.

EXHIBIT 2: Businesses have gotten better at managing inventories
Inventory/sales ratio



Source: U.S. Census Bureau, FactSet, J.P. Morgan Asset Management.

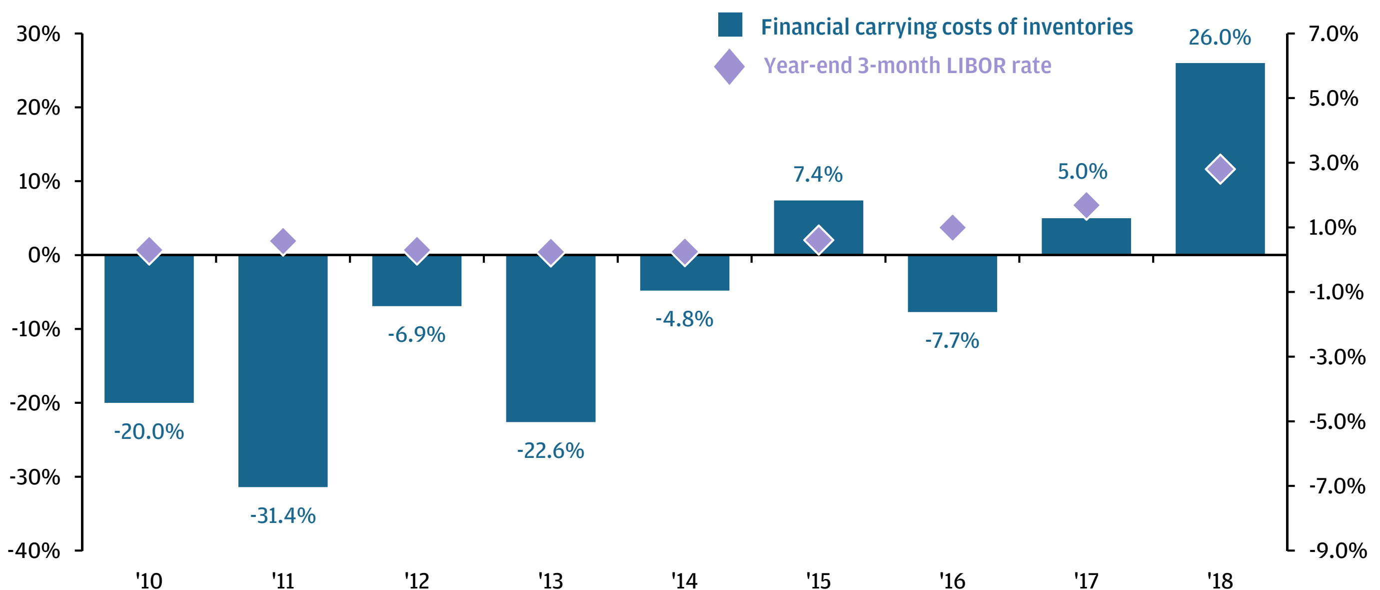
Low rates and online shopping

To start, the economic and interest rate environment since 2008 has been unique, as the Federal Reserve (Fed) held rates at zero until the end of 2015. With the economic recovery on increasingly stable footing against a backdrop of low rates, businesses were able to take advantage of historically low yields to obtain favorable financing terms for both purchasing inventory, as well as leasing or purchasing warehouse space to house these products. As shown in **Exhibit 3**, inventory carrying costs declined sharply following the financial crisis, and even once the Fed began to raise rates in December 2015, the "lower for longer" era looked set to persist. At the same time as financing and storage costs were falling, muted inflation and a stronger dollar, which translated to subdued producer and import prices, made it cheaper to acquire the physical stock itself.

More recently, the onset of trade uncertainty in 2018 left businesses reluctant to invest, despite the more favourable treatment of capital spending in the Tax Cuts and Jobs Act (TCJA). Given this lack of clarity as to how tariff rates, supply chains, input prices, and regulations could change, businesses began stock-piling inventories in advance of any major policy shifts. In fact, from 3Q18 to 1Q19, the average annualized pace of private net inventory growth was nearly USD 100billion.

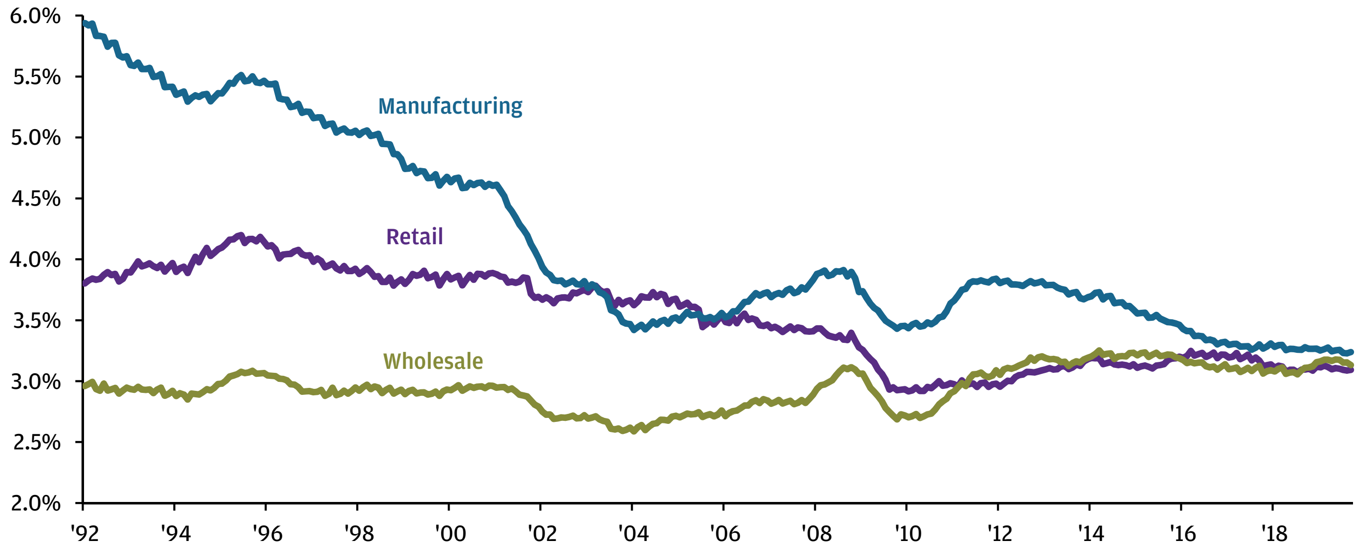
That said, companies do not build their inventory simply because it is cheap to do so – there has to be an expectation of reliable demand. This is where we have seen a more structural shift in how inventories are managed, which is reflected in both the composition of inventories themselves, as well as in how they are stored. Inventories are classified into three categories: manufacturing, wholesale, and retail. The composition has shifted since the data began being published in 1992; at that time, manufacturing accounted for 47% of total inventories, retail made up 30%, and wholesale accounted for 23%. However, this has shifted to roughly thirds, with manufacturing declining, wholesale increasing, and retail remaining steady. This reflects a few key structural trends: the decline of American manufacturing, the rise of trade and globalization, and the growth of e-commerce **(Exhibit 4)**.

EXHIBIT 3: Inventory financing costs have tracked the interest rate cycle
Change in inventory financing costs and 3-month LIBOR, %



Source: Council of Supply Chain Management Professionals, FactSet, ICE Benchmark Administration Limited, J.P. Morgan Asset Management. Data from annual State of Logistics reports.

EXHIBIT 4: Are retail and wholesale inventories replacing manufacturing?
Inventory by storage location as a % of GDP

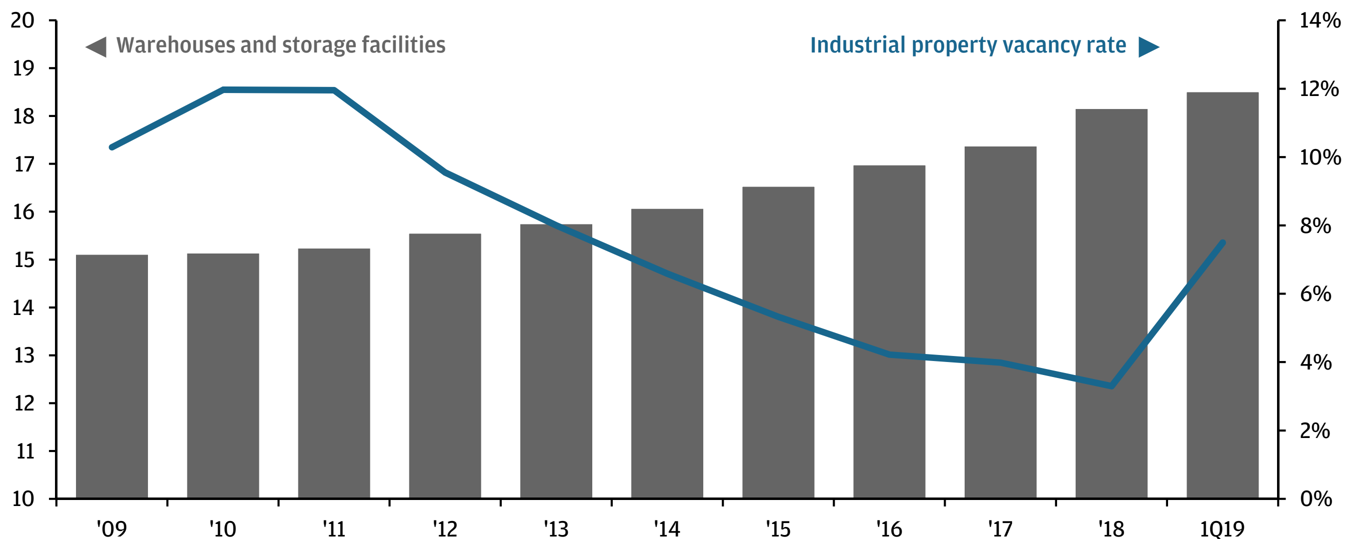


Source: U.S. Census Bureau, FactSet, J.P. Morgan Asset Management.

The dramatic slowdown in manufacturing inventories is somewhat intuitive. Globalization has increased our ability to move manufacturing jobs and pieces of supply chains to other geographies where costs tend to be lower. Given less manufacturing in the U.S., less inventory stock needs to be housed in the U.S. Instead, those goods produced outside the U.S. are shipped back here and stored as wholesale inventories, rather than manufacturing.

This trend of moving inventories closer to the end consumer applies to retail inventories as well. Since 2000, e-commerce has risen from less than 1% of total retail sales to nearly 11% today, with competition among online retailers accelerating delivery times. In order for products to get where they need to be in a timely fashion, businesses need to ensure adequate supply on hand and be able to replenish it quickly **(Exhibit 5)**.

EXHIBIT 5: New warehouse space has been easily absorbed
Number of private warehousing & storage facilities, industrial property vacancy rate, %



Source: U.S. Census Bureau, NCREIF, J.P. Morgan Asset Management.

Investment implications

Inventories have risen due to cyclical trends, such as low interest rates and input costs, as well as more structural ones, such as the decline in domestic manufacturing, the rise in globalization and trade, as well as the growth in e-commerce. While we expect these structural forces to continue to impact inventories for the foreseeable future, the most consequential factor for inventory investment and economic growth in the next 18 months is likely to be trade.

A backdrop characterized by trade uncertainty has led businesses to stock-pile inventories ahead of tariff increases, so ironically, a trade truce could lead inventory growth to slow dramatically or even begin to contract. If a trade deal were reached in the near term, inventories would likely decline back to a more balanced state. Looking toward the end of the cycle, the change in inventories could turn negative in a recessionary environment, exacerbating the pace of economic contraction.

This anemic expansion has been aided by the growth in private inventories; however, as the pace of inventory accumulation slows over the coming year, we anticipate economic growth will remain in line with its 2% trend. That said, as online shopping continues to grow its share of total retail sales, it seems reasonable to expect that companies will be forced to maintain inventories at a higher level, and in different locations, than they have historically.

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