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Is the Business Cycle Still an Inventory Cycle?

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Changes in inventories held by businesses draw considerable attention from economists because of the prominent role they play in the business cycle. Indeed, the shedding of unwanted inventories often accounts for a large portion of the decline in gross domestic product (GDP) during economic recessions, despite the fact that changes in inventories are quite small relative to overall production.

However, in recent years businesses have improved inventory management. For example, advances in information technology allow sales results to be more rapidly incorporated into production decisions, which has the potential to mitigate the amount of inventory accumulation (and subsequent shedding) that occurs when sales slow. These improvements in inventory management may moderate the business cycle in at least two ways. First, to the extent that inventory mismanagement has *caused* past recessions, it is possible that improved inventory management may have contributed to a decrease in the number of recession episodes in recent years. Second, if inventories fluctuate less violently during the recessions that do occur, the severity of output declines during these recessions will be lessened.

In this note I investigate this latter possibility by asking whether inventory investment has contributed less to the slowdowns in production observed in the two most recent business cycle episodes, the 1990-91 and 2001 recessions, as compared with recessions in the 1950s through the 1980s. The table shows historical data on the percentage change in real GDP from the beginning to the end of recessions. The table also shows the respective amounts of this change that can be attributed to the change in sales compared with the change in inventory stocks, with these two contributions summing to the total change in real GDP. The table makes clear that inventory investment played an important role in pre-1990 recessions. For example, in these seven recessions, inventory investment accounted for 1.4 percentage points of the average 2 percent peak-to-trough decline in real GDP. That is, if inventory levels had remained constant during these recessions, the declines in real GDP would have been much less severe.

Is there evidence that inventories played a smaller role in the past two recessions? The answer for the 1990-91 recession is most likely yes. Indeed, although the decline in final sales in this recession was about the same size as the average of past recessions, the decline in inventories was smaller. In other words, the decline in real GDP in the 1990-91 recession was smaller than would have been expected given the decline in final sales and historical experience. For the 2001 recession the decline in inventories was again less severe than the average decline for pre-1990 recessions and similar to that seen in 1990-91. Also, the nature of this inventory decline was quite different from that of past recessions. In particular, a large portion of the inventory decline occurred in response to an unexpected surge in sales in the months immediately following the September 11 terrorist attacks.[1] Thus, unlike past recessions, most of the inventory decline observed in the 2001 recession was not due to businesses attempting to shed an undesirably high level of inventories. Overall, then, the evidence is consistent with a smaller role for inventories in the two most recent recessions. ■

[1]For more details see James A. Kahn and Margaret M. McConnell, "Has Inventory Volatility Returned? A Look at the Current Cycle," Federal Reserve Bank of New York *Current Issues in Economics and Finance*, May 2002, 8(5).

Inventories and Recessions: The Historical Record

Recession episodes	Peak-trough change in real GDP	Change in GDP due to inventory investment	Change in GDP due to final sales
1952-53 through 1981-82	–2.0%	–1.4%	–0.6%
1990-91	–1.3%	–0.8%	–0.5%
2001	0.3%	–0.7%	1.1%

Views expressed do not necessarily reflect official positions of the Federal Reserve System.