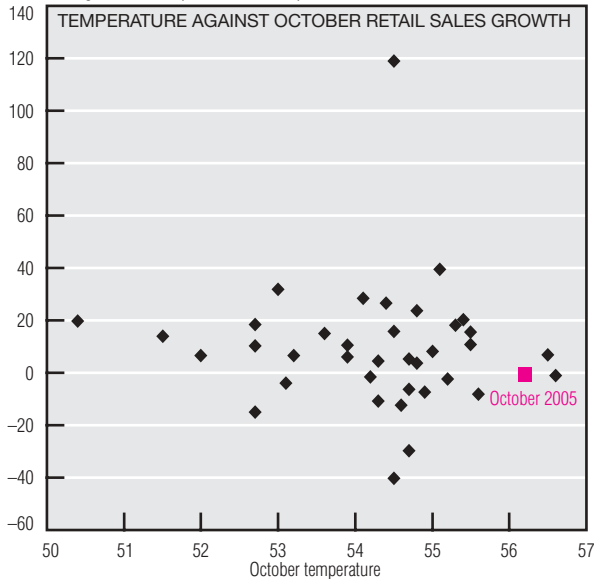
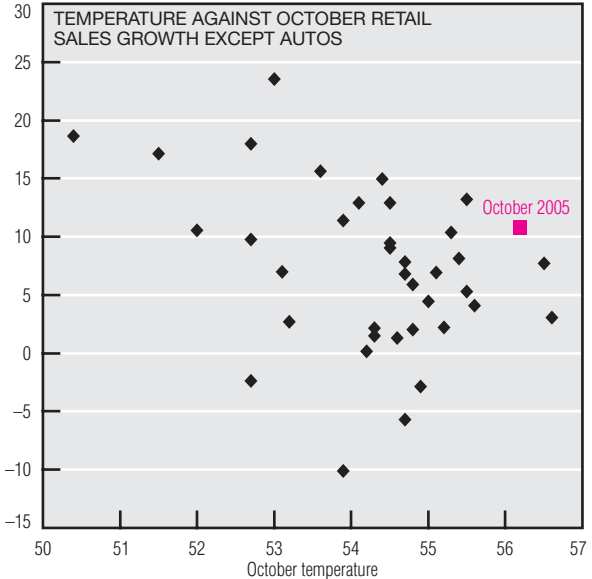


Temperature and Retail Sales

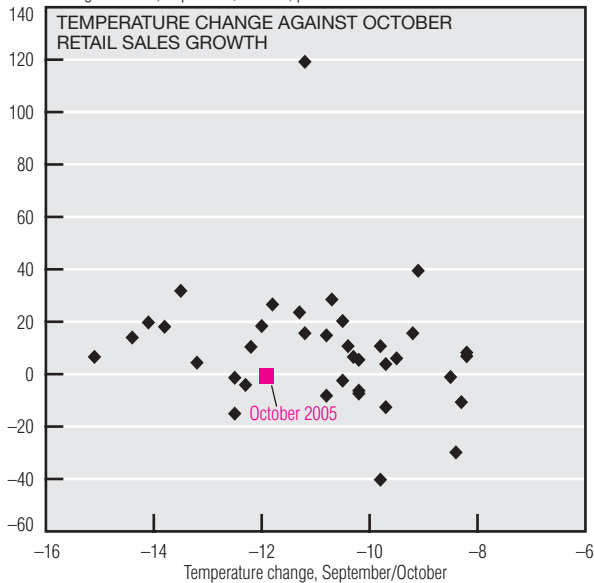
Annualized growth rate, September/October, percent



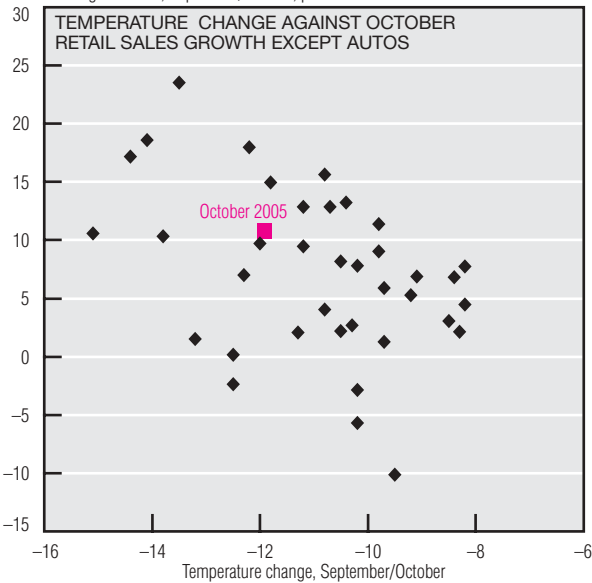
Annualized growth rate except autos, September/October, percent



Annualized growth rate, September/October, percent



Annualized growth rate, September/October, percent



NOTE: All retail data are seasonally adjusted.

SOURCES: U.S. Department of Commerce, Bureau of the Census; and National Climatic Data Center.

Many retailers credited colder October weather with improving the month's sales. It is easy to think of individual goods—down-filled jackets and swimsuits, say—whose sales depend on temperature. It is less obvious that such a relationship should exist in aggregate economic data, partly because of “averaging out” over the many goods sold in the U.S., but principally because such data are seasonally adjusted, which removes the obvious effects of temperature. Nonetheless, can we see a relationship between temperatures and retail sales in aggregate U.S. data?

Retail sales growth from September to October seems unrelated to average U.S. temperatures in October. (The 120% growth rate recorded in 2001 was presumably an aftershock of the September 11 attacks.) A loose relationship between these variables emerges if we exclude automobiles from retail sales, which may be warranted in light of automotive companies' recent rebates and special pricing.

But these figures may not get at the essence of what retailers mean when they say that colder temperatures

improved retail sales in October. Perhaps sales took off when the temperature fell sharply between September and October. For total retail sales, it is difficult to discern a pattern. However, if we again exclude automobiles, the size of the drop in temperature seems to be positively correlated with the rate of growth in retail sales. At the very least, October's retail sales growth seems to have been more closely linked to the amount of temperature change than to the average temperature level.