

Data Appendix

Introduction

The contribution of the variance of motor vehicle production to GDP is calculated by comparing the variances of the growth rates of the following two variables: chain-weighted total GDP and chain-weighted GDP less motor vehicles. Both of these variables are available from Table 1.2.3 from the National Income and Product Accounts. From 1967 through 2004, the variance of GDP growth is 11.30 and the variance of the growth of GDP less motor vehicles 8.65. We used nominal GDP figures to compare levels.

Figure 1 and Table 1: Car and truck sales are seasonally adjusted by the Bureau of Economic Analysis (BEA) and are in millions of units at an annual rate. We would have preferred to limit our analysis to light vehicles, but light-truck production is not distinguishable from total truck production prior to 1977, and data for light-truck inventories are not available before 1972. Thus, Figure 1 and Table 1 include all trucks. All production data are seasonally adjusted by the Federal Reserve Board. Car inventories are seasonally adjusted by the BEA, though we had to use our own seasonal adjustment method for trucks. For truck inventory investment, we regressed the unadjusted inventory investment on the difference between seasonally adjusted and unadjusted production and sales of trucks.

Figure 2: Car sales, car inventories, and light-truck sales are available on a seasonally-adjusted basis from the BEA. The level of light truck inventories was seasonally adjusted with X12ARIMA.

Table 2: The dataset was constructed from industry trade publications in part by Bresnahan and Ramey (1994), who collected the data covering the 50 domestic car assembly plants operating in the period 1972 – 1983, and by Ramey and Vine (2004), who extended it to include all 103 car and light truck assembly plants operating in the periods 1972 – 1983 and 1990 – 2001. The data were collected by reading the weekly production articles in *Automotive News*, which report the following variables for all North American assembly plants: (1) the number of regular hours the plant works; (2) the number of scheduled overtime hours; (3) the number of shifts operating; and (4) the number of days per week the plant is closed for (a) union holidays, (b) inventory adjustments, (c) supply disruptions, and (d) model changeovers. Observations on the line speed posted on each assembly line were collected from the *Wards Automotive Yearbook*.