Missing Growth from Creative Destruction[†]

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For exiting products, statistical agencies often impute inflation from surviving products. This understates growth if creatively-destroyed products improve more than surviving ones. If so, then the market share of surviving products should systematically shrink. Using entering and exiting establishments to proxy for creative destruction, we estimate missing growth in US Census data on non-farm businesses from 1983 to 2013. We find missing growth (i) equaled about one-half a percentage point per year; (ii) arose mostly from hotels and restaurants rather than manufacturing; and (iii) did not accelerate much after 2005, and therefore does not explain the sharp slowdown in growth since then. (JEL E23, E31, L14, L15, O30, O41)

Whereas it is straightforward to compute inflation for an unchanging set of goods and services, it is much harder to separate inflation from quality improvements and variety expansion amidst a changing set of items. In the US Consumer Price Index (CPI), over 3 percent of items exit the market each month (Bils and Klenow 2004). In the Producer Price Index (PPI) the figure is over 2 percent per month (Nakamura and Steinsson 2008).

The Boskin Commission (Boskin et al. 1996) highlighted the challenges of measuring quality improvements when incumbents upgrade their products. It also maintained that the CPI does not fully capture the benefits of brand new varieties. We argue that there exists a subtler, overlooked bias in the case of creative destruction. When the producer of the outgoing item does not produce the incoming item, the standard procedure at statistical offices is to resort to some form of *imputation*. Imputation inserts the average price growth among a set of surviving products that

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