# L1.SEC.8

8. [Page 42] What are the likely implications of future productivity over a ten year rebasing deferral period of high past capital spending (i.e. negative capital productivity)? Is it possible to estimate the quantitative impact on productivity of such a pattern? To what extent, if any, is it reasonable to expect capital productivity to revert to zero over time?

**Response to SEC-8:** The following response was provided by PEG.

Since the gas utility business is highly capital-intensive, a period of high capital spending can easily drive *total factor* productivity growth as well as *capital* productivity growth negative. As surge capex depreciates, however, it slows cost growth and accelerates productivity growth when a geometric decay or COS capital specification is employed in the productivity research. After the capex surge ends, *positive* capital and total factor productivity growth are both quite possible. The long run productivity growth of the industry can never be achieved if substandard productivity growth alternates with normal productivity growth.

To learn more about this phenomenon, PEG examined the TFP growth patterns of gas utilities in our sample that experienced capex surges. We first identified companies that experienced three years of capital quantity growth that exceeded their capital quantity trends for the full sample period by at least 140% on average. We then measured the average TFP growth after the surges until and unless another surge began. We found that, whereas TFP growth averaged -0.23% for the full sample period for all companies, it averaged 0.08% in the aftermath of capex surges.