Getting Aggressive with Broadband Regulation

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The Federal Communications Commission recently voted to subject the Internet, once again, to legacy public utility telecommunications regulation originally designed for the old Ma Bell monopoly. While the FCC’s new rules do not push so far as to regulate retail rates (though they do regulate wholesale termination rates), the FCC’s rules open the door to potential retail rate regulation of broadband services by the states. Some special interest groups have called for rate regulation, while others desire the outright government takeover of broadband networks. (This objective is different than having a smattering of municipally-owned broadband systems across the country where benchmarking is feasible. Municipal and privately-owned broadband networks charge similar prices, though municipally-owned networks often typically accomplish this comparable pricing through cross subsidy and/or direct tax support to cover losses.)

A sensible question to ask is what should consumers expect from a broadband market subject to these more aggressive sorts of public utility regulation or complete government ownership of broadband networks? As inflation is at the forefront of consumer concerns today, a first step would be to compare retail prices between the previously unregulated broadband industry and the rate-regulated natural gas and electric industries along with the federal postal service.

To measure price, I use the average selling price producers receive for their output as measured by the Producer Price Index ("PPI"). For broadband services, the PPI measures residential fixed broadband prices and mobile telephone service. The PPIs for the rate regulated utilities are for residential distribution service, and the PPIs for the U.S. Postal Service are for standard class mail (stamps) and Priority Mail services. All the PPI are set to 1.0 in the first month. Price data are collected over the period March 2016 through February 2024, four years before and after the Covid Pandemic of 2020 (March 2020), an event that triggered inflation as supply-chains were disrupted and the federal government poured trillions of dollars into the economy (stimulating demand and inflating the money supply), adding fuel on the inflationary fire caused by the supply chain problems.

The figure below illustrates the price trends over time, and the trends are compelling. Regulated prices in the energy sector have soared post Covid, as has the price of postal services. These prices track increases in the Core PPI. The correlation coefficients between the regulated and nationalized sectors are all large and no
smaller than 0.88 (Priority Mail) and as high as 0.967 (electricity). Broadband prices, alternatively, have fallen over the entire period and remain below their initial value at the start of the sample. The correlation coefficient between the broadband prices and the Core PPI are negative, ranging from -0.33 (mobile) to -0.69 (wired), so broadband prices are moving in the opposite direction of the overall price level. Broadband prices are a saving grace in difficult times.

Before and after the start of the Covid Pandemic, the core PPI rose and electricity distribution prices rose 14%, natural gas distribution prices rose 30%, and postal prices rose 17% (stamps) and 23% (Priority Mail). For broadband services, residential broadband prices fell 6% and mobile services fell 3%. All these price changes are statistically different from zero. After the Covid Pandemic, relative to the prices in the regulated energy sectors and for postal services, on average residential broadband prices fell 22% and mobile prices fell 20%. Had broadband prices followed these regulated and nationalized sectors, a $60 broadband service before the pandemic would be about $73 today.

These price comparisons ignore the rising costs of providing these services, which can be accounted for. For the energy sectors, the PPI for natural gas and average industry wages measure input costs since both the electricity and natural gas distribution industries use natural gas as a primary input. For postal services, the input costs are the Consumer Price Index (CPI) of gasoline and median industry
wages, while the input price for broadband is the PPI for telecommunications networking equipment and mean industry wages. Accounting for rising input costs does not affect the price changes before-and-after Covid by much: on average residential broadband prices fell 21% while mobile prices fell 18%, relative to the other industry prices. Higher costs do not account for the differences in price changes.

This analysis reveals (at least) two policy-relevant insights.

First, despite the highest inflation the nation has seen in decades, broadband prices are falling. Thus, when it comes to inflation, the broadband industry is an exception—not the rule. Looking over more than a thousand PPI reported by the government at the six-digit NAICS level, only 4% of the PPI fell over the sample period, including broadband prices. Residential wired broadband and mobile services are in the lower 2% of distribution of price changes. As for price changes before and after the start of the Covid Pandemic, only 4.7% of prices fell, including broadband prices, with both modalities in the lower 3% tail of this distribution. Market performance in the broadband industry is truly remarkable.

Second, the regulation and nationalization of broadband service is no cure for allegations of high broadband prices, which are, in fact, falling over time unlike the prices of rate-regulated and nationalized services. Broadband services should be left to competitive market forces, a policy which has served consumers well during the recent economic turmoil.