Production and Consumption of Post-Secondary Education Services

Takashi Yamashita
U.S. Bureau of Economic Analysis

Paper Abstract: This paper estimates production of education services in tertiary education by credit hours earned by students. I then compare the growth of credit hours to the growth of household consumption expenditures in the National Income and Product Accounts and analyze sources of discrepancies. Between 2000 and 2013, the volume output of credit hours grew faster than the real household consumption expenditures on post-secondary education services in the NIPAs. The increases in other volume measures, such as the number of full-time-equivalent students, are consistent with the increase in credit hours index, while the quantity index of higher education services that households consume stays relatively flat throughout this period. I then construct a price index from net tuition payment by students after major grants are taken into consideration. My estimate shows that the two series, the PCE deflator for higher education and the price index per credit hour diverged throughout the period, particularly after 2010 when the Federal government expanded Pell grants. This research points to further areas of possible improvements in how we measure education services.