I. Introduction

Structural Transformatio

II. Concepts

Why focus on total factor productivity (as opposed to labor productivity)?

II.

Data:

III. Accounting for the Deceleration in Manufacturing Productivity Growth

In a first step of the analysis, I argue that essentially all of the (a) gains in manufacturing productivity since 1987 and (b) deceleration in productivity growth since 2010 is due to a single 3-digit manufacturing industry: Compute and Electronics Manufacturing.

To make this point, consider the following equation, linking productivity growth in the manufacturing sector to productivity growth in each of the constituent industries within the sector :

where the summation is over all industries within the manufacturing sector, and denotes the industry j’s share of manufacturing sectoral output as of time t.

Figure 1 plots the average for each manufacturing industry *j* for each of three subperiods within the 1987-2019 sample. The outlier industry is

Figure 2 plots the share of manufacturing sectoral output for the Computer/Electronics industry. From 1987 to 2000, this industry’s share of the manufacturing industry rose from X% to Y%. It has since fallen steady, to Z% as of 2019.

The evolution of productivity growth and size of the Computer/Electronics Manufacturing industry explains nearly 100% of the trajectory of manufacturing productivity since the late 1980s. To make this point, I plot (in Figure 3) the cumulative contribution to manufacturing productivity growth for all industries *other than* Computer and Electronics Manufacturing. This variable is defined as:

In addition, Figure 3 plots TFP growth in the manufacturing sector (relative to 1987) as well as TFP growth in the private business sector (which is, essentially, the entire economy less the government sector.)

To patterns stand out within this Figure.

Other Stories

Offshoring

Mismeasurement

Pharmaceuticals

III Framework

III.A Linking Productivity Growth to Gross Output Deflators

Use and to, respectively, refer to the gross-output price deflator for industry j. Under the assumption that the production function (1) is constant returns to scale and that firms in industry j are price takers for labor (with unit price ), capital (with user cost ), different domestically-sourced intermediate inputs (with unit price for commodity I), and different imported intermediate inputs (with unit price for different commodity I), the marginal cost of industry *j* equals:

Within this equation, represents the year-t cost share of generic input *X* in the production of industry *j*’s output.

We make two approximations:

Change in markups is the same across industries in each period.

are approximately the same for all industries

Relationship between industry price indices is given by:

III.B Linking Gross Output Deflators to Components in the PCE Price Index.