

Title: *On Tyranny of Numbers: Causes of Labor Productivity in Argentina 1993-2004*

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The main purpose of the paper is to show some evidence that the main cause of labor productivity growth in Argentina during 1993-2001 would have been capital intensity growth, instead of the Solow's residual or Total Factor Productivity (TFP). This result is different from other previous results on the Argentine experience, which found that TFP was the principal cause of GDP growth during the 1990s based on the calibration of a real business cycle model. The discrepancies arise as a result of the methodological approach and the macroeconomic consistency analyses of the series, that in the case of this paper belong to National Accounts System of Argentina. According to the recommendations of the economic literature on productivity measurement, the sources of economic growth are analyzed through the economic theory of index numbers. This allows the extraction of substitution and composition effects in production, labor input and capital services from the residual TFP. The paper evaluates the possible main causes of labor productivity growth: capital intensity (capital-labor ratio) vs. TFP. Following the OECD Productivity Manual, this paper analyzes the main components of TFP; not all TFP is technological change and not all technological change is TFP. The paper discusses the possible wrong identification of residual TFP –or the so call Solow's Residual– as exclusively shifts in the production function. It is also considered the main problems of measurement of the capital stock and their possible impact on TFP growth, due to: biases due to the assumptions of the Perpetual Inventory Method on the level and performance of the capital stock; changes in the quality of capital assets; econometric estimation of the functional form of depreciation; and other measurement problems in the capital stock figures. As a result of the application of this methodology, taking into account the National Accounts series and their macroeconomic consistency, the paper shows that labor productivity growth and TFP growth had a remarkable procyclical behavior during the 1993-2004 period, being its trend significantly reduced for both indicators, after subtracting the changes in capacity utilization and substitution and composition effects in production and factors from the Solow Residual. The main conclusion is that the Argentine economy during the 1993-2001 period would present an extensive growth profile, based on factor accumulation rather than positive shifts in the production function. Technological change would have been of an embodied type, stimulated by the fall in the relative price of capital goods as a result of the appreciation of the domestic currency and the increase in the openness to external trade during the 1990's, but without having a substantial positive effect on the organization of the Argentine economy in the long run. During the post mega devaluation and crises period (2002-2004), GDP growth would have been explained by the reduction of capital intensity originated in a higher relative labor demand, as a consequence of increases in the capacity utilization previously underused during five years of deep economic depression (1999-2001) and some influence of the high decrease of unit labor costs due to the high increase of real exchange rate. As a consequence of these stylized facts, some doubts arise about the capacity of the Argentine economy to generate the necessary gains in strictly TFP that allow sustainable growth in the long run.