« Definitions and measures of ICT impact on growth : What really is at stake ».

Hélène Baudchon and Olivier Brossard[1]

Many innovations have been introduced in national accounts in order to better gauge the information and communication technologies (ICT) diffusion impact : new ICT definitions ; recognition of business and government software expenditures as fixed investment ; hedonic price index. Nevertheless, there still does not exist any clear consensus about the magnitude of the ICT impact on growth. Our aim is to propose some explanations of this relative failure and to show that the debate should not be exclusively focused on quantitative methods.

To this end, we take a close look at the two main questions concerning the debate surrounding the measure of the ICT impact : 1) Are there any substantial total factor productivity (TFP) gains generated by ICT diffusion or is it only a classic story of capital deepening ? 2) If there are indeed TFP gains, are they limited to ICT producers, as Robert J. Gordon claims, or is there any diffusion to ICT users ?

We think that this grid of analysis is not satisfactory and will not permit to correctly assess whether ICT are able to generate a growth acceleration. The reasons for this failure are twofold. First the empirical results probably underestimate TFP growth (and acceleration) outside the "new economy" sectors. Secondly, even if it was not the case, there is no sound theoretical ground for considering that a global TFP acceleration is necessary to trigger a long term growth acceleration. Indeed, a two sector model allowed Greenwood and Jovanovic (1998) to show that most of the post-war growth could be explained by TFP gains in the equipment sector.

The text is divided into two parts. The first one makes a quick assessment of the adaptation of American national accounts to the «new economy », and then underlines the limits of these changes. The second one shows that the economic debate on the importance of TFP gains acceleration and where they occur is blurred by two kinds of problem : first, TFP gains outside the new economy are probably much more important than usually measured ; second, even if we can admit that they are so weak outside the new economy, it is still possible to believe that it is enough to spark a long productivity revival.

[1] Respectively economist at the OFCE and professor of economics at the University of Savoie.