

**Disentangling the effect of ICT on residential and non-residential
labour demand in Luxembourg**

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Luxembourg's economic situation differs from that of the other EU member states in the sense that a huge part of its labour supply is non-residential. Hence, knowledge of the elasticity of substitution between resident and non-resident labour is highly important to understand future growth potential and to analyse the cost competitiveness of the Luxembourg economy. Previous studies addressed this issue by estimating a CES production function (Pieretti and Reinesch (1994), Allegrezza and Guarda-Rauchs (1997)). Guarda (2000) generalizes these studies by estimating a translog cost function. Firstly, the function is less restrictive concerning separability and homotheticity. Secondly, it is more adequate, given the fact that for a small open economy input prices rather than input levels are fixed.

This paper intends to develop this kind of studies along a new dimension, notably by disentangling the effect of ICT on residential and non-residential labour demand. As in Guarda (2000) we estimate a translog cost function, but we disaggregate capital in physical capital (non-ICT) and non-physical capital (ICT). As in Zandweghe et al. (2001) we distinguish three types of ICT capital goods: IT hardware, communications equipment and software. We are thus able to analyse the effect of ICT investments on the elasticity of substitution between residential and non-residential labour. This may be a useful guide for industrial policies in small open economies.