

ABSTRACT

Structural Change and Polarization - The Role of Non-homothetic Preferences and Technology

Zsófia L. Bárány

zsofia.barany@sciences-po.org

Christian Siegel

c.siegel@exeter.ac.uk

The polarization of employment and wages in recent decades both in the US and many European countries has generated a lot of interest in empirical labor economics (Autor, Katz and Kearney for the US (2006), Goos and Manning for the UK (2007), and Goos, Manning and Salomons (2009)). This phenomenon, besides the relative growth of wages and employment at the top end of the earnings distribution, also entails the relative growth of wages and employment at the bottom. Two popular explanations suggested in the empirical literature are the routinization hypothesis, and the consumption hypothesis. The routinization hypothesis relies on the assumption that middle-skill and hence middle-earnings occupations are more easily substitutable by machines (Autor, Levy and Murnane (2003), Autor, Katz and Kearney for the US (2006), Goos, Manning and Salomons (2011), Autor and Dorn (2012)). The consumption hypothesis suggests that as the income of high-earners increases, their demand for low-skilled service jobs increases as well, leading to a spillover to the low-end of the wage distribution (Manning (2004), Mazzolari and Ragusa (2012)). We propose an explanation for this phenomenon based on structural change. In our model potentially both of the suggested mechanisms are at work, which helps us to quantify their relative importance.

In the model, there are two types of market goods: manufacturing and high-end service goods. Preferences over these two goods are non-homothetic: high-end service goods are luxury goods, which are only demanded by high-wealth agents. Additionally a subsistence level of home production is required, which can be self-produced or acquired in the market. We model low-skilled service jobs as substitutes for household production. As technology progresses in the market goods sector, the employment and production structure of the economy changes: as households gradually become wealthier, the demand for high-skilled services rises over-proportionally due to the non-homotheticity of preferences. Consequently, ore people acquire education and work in high-end service jobs. As wages increase, more and more people decide to hire a low-skilled household worker, instead of doing housework themselves. This puts an upward pressure on wages at the bottom-end of the distribution, increasing the supply of these workers.

The relation between technological progress and relative wage growth can be non-monotonic. In the early stages of development, wages in the market sectors are low, and demand for low-skilled workers as substitutes to household production is limited, and hence their relative wages do not increase with their employment share. On the other hand, when the economy is sufficiently advanced, spillovers from high-earners demand to the low-skill labor market are more pronounced, resulting in both wage and employment polarization.