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Productivity, structural change and informality: the case of Russia

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Extended abstract

Technology backwardness creates opportunities of acceleration of productivity growth with adaptation of better available technologies (Gerschenkron 1962; Acemoglu, Aghion, and Zilibotti 2006). However, many backward countries do not demonstrate the ability to catch up. One of possible explanations of this is expanding informal economy, fuelled by labour inflow from formal sectors. Because of lower level of education and lower capital/labour ratio, informal industries have lower ability for adaptation of better technologies and lower level of labour productivity in comparison with formal industries. Can the expanding informal sector of the economy slowdown labour productivity growth substantially?

De Vries et al (2012) applied the traditional shift share analysis (TRAD), suggested by Denison (1962), taking into account not only formal, but also informal industries of Brazil and India. This study showed that the contribution of labour reallocation could change drastically if labour reallocation between formal and informal industries was taken into consideration. However, Dumagan (2013) showed that TRAD could be misleading because of the assumption of fixed weights in output volume indices of the base year, being inferior to the chain-indices based version of the shift share analysis, suggested by Tang and Wang (2004) (GEAD). Moreover, interpretation of TRAD in some cases is questionable (De Avillez 2012).

The present study addresses these issues, applying both TRAD and recent modifications of the shift share analysis of Tang and Wang (2004) and Diewert (2014) to the Russian industry-level data in 1995-2012. We split the Russia KLEMS series for 30 industries of value added and hours worked into formal and informal segments, and apply four different approaches of the shift-share analysis. Novelty of this paper is in (i) developing new sectoral data with informality for the Russian economy; (ii) applying exactly additive chained-indices based methods of the

shift share analysis to Russian industries, which include not only formal, but also informal segments.

We found that if informality is taken into account, labour reallocation becomes growth reducing, confirming results of De Vries et al (2012) with better methodology. In addition to that we document that the growth reducing influence of expanding informality is mostly explained by the increase of variation in labour productivity levels across industries (Denison effect). Finally, with the approach of Diewert (2014) we demonstrate that the lion's share of growth enhancing labour reallocation, reported by De Vries et al (2012) for Russia, is explained by the increase of relative prices in Russian Oil and Gas sector, rather than structural change in labour shares.

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