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An Assessment of Economic and Social Progress of the Least Developed Countries

During the last two to three decades a number of developing countries (DCs), including such large ones as the PRC and India have succeeded in increasing markedly their rates of economic growth. As a result, by (minimal) criterion, applied by the World Bank and the United Nations[1], the share of people living in extreme poverty has contracted more than three times to less than 1/10. But in the least developed countries (LDCs) the indicator has on average decreased only by 1/3 to 2/5.

If one applies a little bit more rigid criterion of poverty by lifting its level by a little over one dollar from 1.9 to $3.1 at 2011 PPPs it is possible to reveal that the level of severe poverty is higher in DCs 2.5 times (28 to 30 per cent) and in LDCs – 1.7 times (68 to 70%; derived or calculated on the data from [3; 5, 2016, p. 19]).

Is everything hopeless in the group of LDCs or the waves of positive changes have uplifted them as a number of other DCs (ODCs)?

Dynamics of growth

LDCs represent 1/3 of all DCs, one billion people, but they make up no more than 2 per cent the world GDP and 1 per cent of the value of its exports. During the last three decades of the previous century dynamics of growth of their per capita GDP was substantially lower than on average in ODCs and advanced economies (AEs, see graph 1). However, in 2000–2015 the average annual growth rate (AAGR) of per capita GDP in LDCs has hugely increased. It stems from a series of factors, among them an improvement of barter terms of foreign trade (first of all in African LDCs), as well as a significant rise (primarily in Asian LDCs) of AAGR of agricultural production and exports of manufactured goods.

At the same time the per capita GDP in LDCs related to the average level of ODCs has decreased from 56 per cent in 1970 to 21 per cent in 2015. It means that despite certain successes achieved by LDCs, the gap between ODCs and them has expanded *in relative dimensions* 2.5 times, and *in absolute dimensions* – 7.8 times (from $1,200 to $9,400 at 2011 PPPs)[2].

Since dynamically growing group of ODCs managed to have curtailed its relative gap in per capita GDP with AEs nearly twice – from 6.9 in 1970 to 3.8 times in 2015 (although the absolute gap between them has nearly doubled), it turned out that the relative gap between LDCs and ODCs, measured by GDP per capita, became higher than on the whole between the ODCs and AEs. It means that the character of the processes of divergence and convergence which are underway

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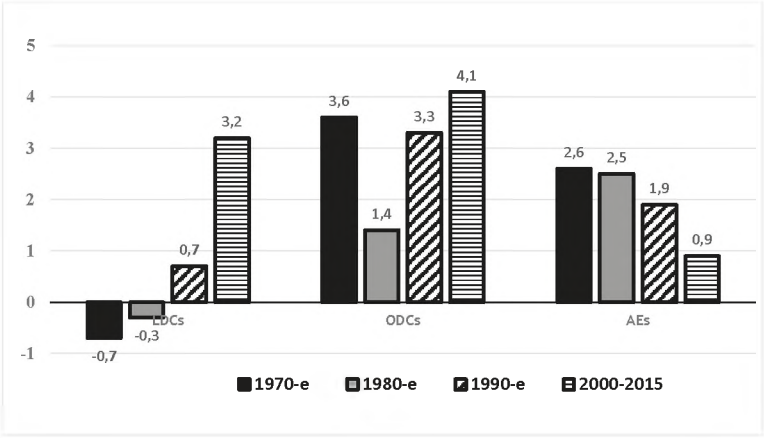
[1] Per capita consumption a day not exceeding $1.9 at 2011 PPPs.

[2] Unless otherwise stated, all calculations are made on the data from sources indicated in graph 1.

in the world is rather contradictory, and dangerously explosive potential of disproportions is currently increasing in it, which can result in serious economic, social and political consequences.

Graph 1

LDCs, ODCs and AEs: Average Annual Growth Rates of per capita GDP, per cent.



Calculated on the data from: [8; 2; 4].

Factors of growth

It is not easy to pin down the exact factors that have recently caused some acceleration in economic growth in nearly three dozen LDCs. However, one may start off with a simple pilot model (see below)[3]. Tentative conclusions are as follows. According to calculations, *comparatively faster per capita GDP growth* achieved during 2000–2015 within a group of 28 LDCs (which account for more than 90 per cent of their population), was due by 1/3 and 1/5 to faster growth of agricultural value added and exports (respectively), and approximately by ¼ – to improvement in government effectiveness[4].

$$GDPPERCAPGR_i = 0.59*AGRGR_i + 0.12*EXPGR_i + 2.86*\Delta GOVEFF_i$$
$$(p=0.000) \quad (p=0.007) \quad (p=0.001)$$
$$AdjR^2 = 0.83.\ N = 28.\ T = 2000–2015.$$

$GDPPERCAPGR_i$, $AGRGR_i$, $EXPGR_i$, $\Delta GOVEFF_i$ – denote respectively average annual compound growth rates of per capita GDP, agricultural value added, exports of goods and services and improvement in government effectiveness calculated for 28 LDCs with population exceeding 5 million people for which necessary and relatively reliable data was available for 2000–2015. 28 countries are as follows: Afghanistan, Angola, Bangladesh, Benin, Burkina Faso, Burundi,

[3] Bearing in mind a good saying of British statistician George Box, that "all models are wrong, but some are (let us hope, -V.M.) useful".

[4] 1/5 of the effect can be attributed to other (non-identified) factors.

Cambodia, Central African Republic, Democratic Republic of the Congo, Eritrea, Ethiopia, Guinea, Lao People's Democratic Republic, Madagascar, Malawi, Mali, Mozambique, Myanmar, Nepal, Rwanda, Senegal, Sierra Leone, Sudan, Togo, Uganda, United Republic of Tanzania, Yemen, Zambia. **AdjR²** is the adjusted coefficient of determination (varies from 0 to 1, the more – the better) and **p** is the coefficient of statistical significance (varies from 1 to 0, the less – the better).

Calculated on the data from [2; 8; 9].

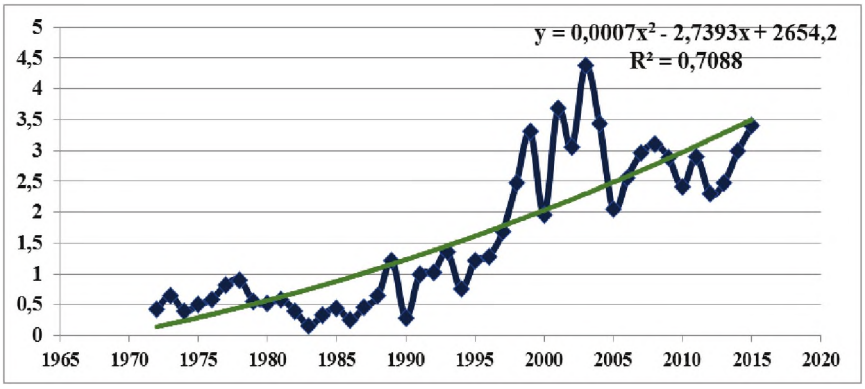
Elaborating on some of the above-mentioned theses, one may point out, that, although AAGR of Total Factor Productivity (TFP) in LDCs' *agriculture*[5] has grown 2.5 times (from 0.6 per cent in 1980–2000 to 1.5 per cent in 2000–2015), the gap in labor productivity in agriculture between ODCs and LDCs rose from twofold to fivefold (calculated on the data from [5, 2015, p. 50, 55, 72–75; 8]).

Twofold acceleration of rates of economic growth in LDCs (on the whole from 2.8 per cent in 1980–2000 to 5.6 per cent in 2000–2015) was also brought about by tripling of AAGR of their *manufacturing production* (to 7.7 per cent) and doubling of AAGR of *physical volume of exports* (to 9 per cent). However, LDCs' coefficient of concentration of exports has grown from 0.21 to 0.26, having surpassed that of ODCs by 2.8 and that of AEs by 3.8 times), and the share of mid-tech and high-tech exports in LDCs' exports is nowadays on average (4 to 5 per cent) nearly ten times less than on average in ODCs.

Despite the fact that LDCs' *share of domestic savings* in GDP has doubled (from 8.5 per cent in 1981–2000 to 16.5 per cent in 2001–2015), their *level of gross fixed capital formation related to GDP*, which has augmented from 16 to 23 per cent, is by ¼ fueled by external financial sources (Net Official Development Assistance amounts to 5 to 7 per cent of their Gross National Income; the rise of FDI inflows in LDCs related to GDP is shown in graph 2).

Graph 2

LDCs, 1970–2015: Foreign Direct Investment, net inflows (% of GDP).



Calculated on the data from sources in Graph 1.

[5] In 2015 the share of agriculture accounted for 2/3 in employment and ¼ in GDP in LDCs and 2/5 and 1/10 respectively in ODCs.

Although acceleration of GDP growth rates during the first decade and a half of the current century in ODCs as well as in LDCs was primarily caused by the increase in their *rates of growth of TFP*, in the latter group this increase was two times higher than in the former and accompanied by substantial increase in the contribution of TFP to GDP growth (in the group of LDCs from approximately (–)1/7 to 1/3 and in ODCs – from 1/5 to 1/3).

Table 1

LDCs, ODCs and AEs, 1980–2015: Sources of GDP Growth, per cent

	1981–2000				2001–2015			
	y	l	k	r	y	l	k	r
LDCs	2.8	2.4	4.8	-0.4	5.6	2.2	6.3	2.0
ODCs	4.1	1.9	5.8	0.8	5.3	1.5	7.0	1.9
AEs	3.0	0.3	3.4	1.6	1.6	0.15	2.2	0.7

Notes. 1. Calculated by applying the following formula: $y = \alpha*l + (1-\alpha)*k + r$, where l, k and r denote average annual growth rates of employment (corrected by using estimates of work hours), physical capital (gauged by applying R. Goldsmith's perpetual inventory method), and Solow residual. 2. The elasticities of GDP growth with respect to dynamics of labor (α) and physical capital ($1-\alpha$) are taken in proportion of 0.65 to 0.35 (following various studies).
Data sources are the same as for graph 1.

However, despite the fact, that during the first decade and a half of the current century ODCs and LDCs have been surpassing AEs by rates of TFP growth nearly three times, on the whole during 1980–2015 *the level of TFP* in ODCs related to AEs has risen only from 35 to 39 per cent and that of LDCs has actually decreased from 22 to 18 per cent (calculated on the data from sources to graph 1).

It is worth being emphasized that the basis for sustained economic growth in LDCs is so far very shaky. On average *the deficit of their current account balance* has risen fourfold from the period of 2006–2008 to 2014–2016 and reached 3 to 4 per cent of their GDP. As for AAGR of LDCs' per capita GDP, it has contracted more than twice from 4.9 per cent in 2005–2010 to 2.2 per cent in 2011–2016.

Parameters of human development

On a number of characteristics of human development LDCs on the whole have gradually started to catch up with ODCs. In 1980–2015 the indicator of life expectancy at birth has risen from 48 to 64 and from 62 to 72 years, and that of average years of educational attainment has augmented from 1.6 to 4.2 and from 4.5 to 6.9 respectively. However, the share of the adult population in LDCs which hold higher education degrees (3 to 4 per cent) is less approximately three times than on average in ODCs and ten times than in AEs. By a number of patent applications filed per one million people the gap between ODCs and LDCs has soared 20 times.

According to Human Development Index augmented by inclusion of index of technological development ODCs on the whole do not amount to 2/3 and LDCs – to 2/5 of AEs' level. The share of population in LDCs living in the middle of 2010s

in multidimensional poverty (2/3) was 2.5 times higher than on average in ODCs (1/4; calculated on the data from [7, p. 211, 228–230, 240–241, 245]).

It seems to me that without energetic efforts directed to reforming LDCs' basic institutions it will be very difficult for them to withstand technological and other challenges of quickly changing world, in which competition is gathering momentum. Meanwhile during the last decade approximately 2/5 of the LDCs have experienced substantial rise on Fragile States Index and only in 1/10 of them this index has significantly fallen. If by the level of per capita GDP LDCs have from the beginning of the century started to make some steps on the road of catch-up development, by the level of quality of institutions they are still hugely (in 1996–2015 two times) lagging behind ODCs, and the latter group, in its turn, nearly by the same factor is lagging behind the advanced economies (calculated on the data from [1; 9]).

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