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THE IMPORTANCE OF INVESTMENTS IN HUMAN CAPITAL IN ENSURING THE WELFARE OF THE POPULATION IN UZBEKISTAN

Muslumanova Shahlo Nasriddinovna

PhD Candidate in Economics, Bukhara State

Technical University, Bukhara, Uzbekistan

Abstract

This article examines the role and significance of investments in human capital in ensuring the welfare of the population of Uzbekistan, using a scientific-analytical approach grounded exclusively in open-source, verified data from UNDP, the World Bank, UNESCO, WHO, and national statistical agencies. Empirical evidence from 2000–2023 demonstrates that Uzbekistan's Human Development Index (HDI) rose from 0.596 to 0.740 — a 24.2% increase — placing the country in the 'High Human Development' group for the first time (UNDP, 2024). Life expectancy increased from 73.0 years (2010) to 75.1 years (2024), and the national poverty rate declined from 17% in 2021 to 11% in 2023, lifting an estimated 1.6 million people out of poverty (World Bank, 2024). However, critical systemic gaps persist: education spending remains at 5.5% of GDP — below the internationally recommended 6% threshold — out-of-pocket health payments exceed 50% of total health expenditure, and the Gini coefficient rose to 0.345, signalling growing inequality. These findings underscore that while progress is real, the distributional quality of human capital investment requires urgent policy attention within the framework of the 2022–2026 New Uzbekistan Development Strategy.

Keywords

human capital, investment, welfare, HDI, poverty, education, healthcare, GDP, inequality, Uzbekistan

ЗНАЧЕНИЕ ИНВЕСТИЦИЙ В ЧЕЛОВЕЧЕСКИЙ КАПИТАЛ В ОБЕСПЕЧЕНИИ БЛАГОСОСТОЯНИЯ НАСЕЛЕНИЯ УЗБЕКИСТАНА

Аннотация

В данной статье изучается роль и значение инвестиций в человеческий капитал в обеспечении благосостояния населения Узбекистана на основе верифицированных данных открытых источников ПРООН, Всемирного банка, ЮНЕСКО, ВОЗ и национальных статистических органов. Эмпирические данные за 2000–2023 годы показывают, что индекс человеческого развития Узбекистана вырос с 0,596 до 0,740 (рост на 24,2%), уровень бедности снизился с 17% (2021) до 11% (2023), а ожидаемая продолжительность жизни увеличилась с 73 (2010) до 75,1 лет (2024). Вместе с тем выявлены системные недостатки: расходы на образование (5,5% ВВП) ниже международного ориентира в 6%, доля личных расходов в здравоохранении превышает 50%, а коэффициент Джини вырос до 0,345. Предложены рекомендации по совершенствованию государственной политики.

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Keywords

человеческий капитал, инвестиции, благосостояние, ИЧР, бедность, образование, здравоохранение, ВВП, Узбекистан

O'ZBEKISTONDA AHOLI FAROVONLIGINI TA'MINLASHDA INSON KAPITALIGA INVESTITSIYALARNING AHAMIYATI

Annotatsiya

Ushbu maqolada O'zbekistonda aholi farovonligini ta'minlashda inson kapitaliga investitsiyalarning roli UNDP, Jahon banki, UNESCO, JSST va milliy statistika ochiq ma'lumotlari asosida tahlil qilingan. 2000–2023-yillar davomida HDI 0.596 dan 0.740 ga (24.2% o'sish), umr ko'rish 73 yildan 75.1 yilga ortgan, kambag'allik esa 17%dan 11%ga tushgan. Biroq ta'lim xarajatlari 5.5% YaIM, sog'liqni saqlashda shaxsiy to'lovlar 50%dan ortiq ulush, Gini koeffitsienti 0.345 darajasida qolishi tizimli muammolar sifatida aniqlangan. Davlat siyosatini takomillashtirish bo'yicha amaliy tavsiyalar berilgan.

Keywords

inson kapitali, investitsiya, farovonlik, HDI, kambag'allik, ta'lim, sog'liqni saqlash, YaIM, O'zbekiston

Introduction

In contemporary economic development theory, human capital — defined as the accumulation of knowledge, skills, and health embodied in individuals through education and training — is widely recognised as a primary driver of sustained economic growth. Nobel Laureate Gary Becker conceptualises expenditures on human capital as investments that yield future returns in the form of higher productivity and earnings. Amartya Sen broadens this perspective through his capability approach, arguing that welfare should be measured not by the quantity of material goods, but by the freedom of individuals to achieve what they have reason to value — and that human capital is the principal instrument for creating such freedom.

The Republic of Uzbekistan has consistently prioritised human capital development since independence. The 2017–2021 Action Strategy and the subsequent 2022–2026 'New Uzbekistan' Development Strategy both embody wide-ranging reforms targeting the modernisation of education, healthcare, and social protection systems. As these reform programmes mature, the academic community's demand for rigorous, evidence-based evaluation of their outcomes is growing.

A review of the literature reveals, however, that empirical studies directly and quantitatively assessing the relationship between human capital investments and population welfare specifically in the Uzbekistan context remain limited. The expanding availability of internationally comparable open-source data from UNDP, the World Bank, and national statistical agencies now makes such research increasingly feasible.

This article contributes to filling this gap by analysing key human capital indicators for Uzbekistan against verified open-source data, conducting a comparative analysis within the Central Asian region, and formulating evidence-based policy recommendations.

Research objective:

To analyse trends in population welfare in Uzbekistan — as reflected in education and health expenditures, HDI dynamics, and poverty indicators — using verified open-source data, and to develop substantiated recommendations for strengthening human capital investment policy.

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Research objectives:

To systematise the theoretical linkages between human capital investment and population welfare; to analyse key human capital indicators for Uzbekistan based on verified open-source data; to conduct a comparative analysis with Central Asian countries; to examine poverty dynamics in the context of human capital investments; to formulate actionable policy recommendations.

Material and methods

The research methodology comprises two principal components: theoretical-literature analysis and descriptive empirical analysis grounded exclusively in verified open-source data.

Only verified, openly accessible international and national statistical sources were used in this study:

— UNDP Human Development Reports (hdr.undp.org) — HDI values and country rankings ;

— World Bank Open Data (data.worldbank.org) — GDP growth rates, health and education expenditure;

— UNESCO Institute for Statistics — government expenditure on education as a share of GDP;

— WHO Global Health Expenditure Database / TheGlobalEconomy.com — total health expenditure [14];

— World Bank Poverty Assessment for Uzbekistan 2024 — poverty dynamics and Gini coefficient;

— National Statistics Committee of Uzbekistan — life expectancy data (via uzdaily.uz, kun.uz);

— World Bank Human Capital Index (HCI) 2020.

The following methods were applied: descriptive statistics — to characterise the dynamics of key indicators; comparative analysis — to identify cross-country differences within Central Asia; systematic literature review — to synthesise the theoretical foundations and international experience; logical-systemic analysis — to develop and substantiate policy recommendations.

Results

Table 1 presents a consolidated set of key indicators for Uzbekistan, sourced entirely from verified international and national databases. The notation 'n/a' is used where complete time-series data could not be confirmed in open sources — a finding that itself underscores the need to improve statistical transparency in Uzbekistan.

Table 1.

Key human capital indicators in Uzbekistan — dynamics based on verified sources[1]

[1] *UNDP Human Development Report 2024 (HDI); UNESCO/World Bank Education Statistics (education expenditure, 2023); WHO Global Health Expenditure Database / TheGlobalEconomy.com (health expenditure); National Statistics Committee of Uzbekistan (life expectancy, via uzdaily.uz and kun.uz); World Bank Open Data — GDP growth (2024); World Bank Poverty Assessment for Uzbekistan, 2024 (poverty); World Bank Human Capital Index 2020'ª' — values recalculated in UNDP 2024 report using 2023 methodology (may differ from earlier reports); '~' — approximate or varying across sources.*

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Indicator	2010	2015	2019	2022	2023/ 2024
Human Development Index HDI (UNDP)	0.617[a]	0.672[a]	0.710[a]	**0.727**	**0.740**
Government expenditure on education (% of GDP, UNESCO/WB)	-	-	-	-	**5.5**
Total health expenditure (% of GDP, WHO/WB)	~5.0	6.23	~5.5	~6.5	7.74
Life expectancy at birth (years, National Statistics)	73.0	73.6	-	-	**74.7/75.1**
GDP growth rate (%, World Bank)	~8.5	~8.0	~5.9	**6.0**	~6.0
National poverty rate (%, WB/Statistics Agency)	-	-	-	14.1	**11.0**
Human Capital Index — HCI (World Bank, 0–1)	-	-	-	0.60 (2020)	-

Regarding HDI dynamics, Uzbekistan progressed from a value of 0.596 in 2000 to 0.740 in 2023 — a 24.2% improvement over 23 years that brought the country into the 'High Human Development' category for the first time (UNDP, 2024) [8; 20]. It is worth noting that the global average HDI stands at 0.744, meaning Uzbekistan has not yet crossed this threshold, which underscores both the scale of progress achieved and the distance remaining.

Life expectancy — a composite indicator that reflects investments in both health and living standards — increased from 73.0 years in 2010 to 75.1 years in 2024, according to the National Statistics Committee. This improvement is attributed to expanded vaccination programmes, healthcare infrastructure modernisation, and the gradual extension of health insurance coverage.

Government expenditure on education stood at 5.5% of GDP in 2023 [13]. While this figure is close to the MDH country average, it remains below the internationally recommended minimum threshold of 6% advocated by UNESCO and the World Bank. This gap has direct implications for education quality and access, particularly at the pre-school and vocational training levels.

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Total health expenditure reached approximately 7.74% of GDP in 2021. However, out-of-pocket payments by households constitute more than 50% of total health spending — a structural vulnerability that exposes low-income households to catastrophic health expenditure risk and constrains their ability to invest in human capital accumulation over time.

The World Bank's Human Capital Index (HCI) for Uzbekistan was 0.60 in 2020. This implies that a child born in Uzbekistan today can expect to achieve only 60% of their full productive potential by age 18, given current education and health conditions — a stark quantification of the cost of under-investment in human capital.

Table 2 presents UNDP (2024) HDI data for the five Central Asian countries. This comparison situates Uzbekistan's trajectory within its immediate regional context and highlights differential investment outcomes.

Table 2.

HDI ranking and human development groups in Central Asian countries (UNDP, 2024)[2]

Country	HDI (2023)	Global Rank (193)	HDI Group
Kazakhstan	0.814	67	Very High Human Development
Turkmenistan	~0.745	94/95	High Human Development
UZBEKISTAN	0.740	106/107	High Human Development
Kyrgyzstan	0.701	117	High Human Development
Tajikistan	0.679	126/128	Medium Human Development

Kazakhstan stands apart as the sole Central Asian country in the 'Very High Human Development' group, with an HDI of 0.814 and a global rank of 67th [8]. The 0.074-point gap between Kazakhstan (0.814) and Uzbekistan (0.740) is substantial and cannot be closed in the short term without sustained, systemic investment in education quality, healthcare financing, and research and development capacity.

Kyrgyzstan (0.701) and Tajikistan (0.679) trail behind Uzbekistan, suggesting that Uzbekistan occupies a middle ground in the regional human development ladder — having made significant progress relative to its lower-income neighbours, yet still considerably behind Kazakhstan. This position creates both a competitive incentive and a strategic opportunity: the policy choices made now will determine whether Uzbekistan converges toward Kazakhstan's trajectory or risks stagnation.

[2] *UNDP Human Development Report 2024/2025 (hdr.undp.org); cross-verified via gazeta.uz and caspianpost.com.*

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Table 3 presents Uzbekistan's poverty dynamics for 2021–2023, based on World Bank and national statistics data. These figures represent some of the most directly measurable welfare outcomes of human capital investments, particularly in education and healthcare infrastructure.

Table 3.

Poverty dynamics in Uzbekistan and key comparative indicators (World Bank, 2024)[3]

Indicator	2021	2022	2023
National poverty rate (%)	17.0	14.1	11.0
International poverty line $3.65/day (LMI, 2017 PPP) (%)	—	5.0	—
Rural poverty reduction (pp change, 2021–2023)	—	—	–7.8 pp
Urban poverty reduction (pp change, 2021–2023)	—	—	–3.8 pp
Income inequality — Gini coefficient	—	0.312	0.345

The reduction in the national poverty rate from 17% in 2021 to 11% in 2023 — representing an estimated 1.6 million people lifted out of poverty over two years — is a significant and credible achievement. The World Bank's 2024 Poverty Assessment for Uzbekistan confirms this trend and attributes it to a combination of robust GDP growth, approximately 6% per annum, rising public wages, and expanding social transfer programmes.

A particularly noteworthy finding is that rural poverty declined by 7.8 percentage points over this period, compared to 3.8 percentage points in urban areas. This differential reduction is consistent with the hypothesis that targeted investments in rural education and primary healthcare infrastructure — which have been scaled up under the 2022–2026 Strategy — yield disproportionately large welfare gains in previously underserved communities.

However, the rise in the Gini coefficient from 0.312 (2022) to 0.345 (2023) constitutes a clear warning signal. Even as aggregate poverty falls, income inequality is widening. This

[3] *World Bank Poverty Assessment for Uzbekistan (2024); World Bank Blog 'Charting Uzbekistan's Path to Poverty Reduction' (2024); Uzbekistan Statistics Agency / kun.uz (2024). Note: 'n/a' — data not available in open sources for that year; 'pp' — percentage points.*

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pattern — declining poverty alongside rising inequality — is well-documented in the development economics literature and suggests that the benefits of growth are not being distributed equitably across all segments of the population. From the perspective of Lucas' endogenous growth theory, this distributional imbalance risks undermining the long-term growth dividend of human capital investment if lower-income groups cannot access quality education and health services.

Discussion

The findings presented above are broadly consistent with the theoretical frameworks underpinning this study, while also revealing important nuances and policy-relevant tensions.

First, the steady upward trajectory of HDI (0.596 → 0.740) and the significant reduction in poverty (17% → 11%) provide empirical support for the positive relationship between human capital investment and welfare improvement posited by Becker and Schultz. The co-movement of rising public expenditure on education and health, improving life expectancy, and declining poverty rates is consistent with — though not formally sufficient to establish — a causal relationship. Formal econometric estimation of this relationship, including lag structures and instrumental variable approaches to address endogeneity, represents a priority for subsequent research.

Second, the persistence of high out-of-pocket health expenditure (over 50% of total health spending) is theoretically problematic from Sen's capability approach perspective. When financial barriers to healthcare are significant, individuals — especially those in lower income quintiles — cannot fully develop and deploy their human capital, regardless of the level of aggregate public investment. This creates a 'capability gap' that aggregate HDI improvements may obscure.

Third, the rising Gini coefficient (0.345) combined with an HCI of only 0.60 suggests that the distributional dimension of human capital investment is as important as its scale. Lucas's endogenous growth model predicts that if human capital accumulation is concentrated among already-productive, higher-income individuals — rather than being broadly distributed — aggregate long-run growth will be lower than under an equitable distribution scenario. For Uzbekistan, this implies that raising education expenditure from 5.5% toward the 7–8% of GDP range would be most effective if accompanied by targeted quality improvements in rural schools and expanded needs-based scholarship programmes.

Fourth, the comparison with Kazakhstan illustrates that the gap is not primarily about the level of expenditure, but about system quality and institutional effectiveness. Kazakhstan's HDI advantage is partly attributable to higher education spending (approximately 9% of GDP) but also to higher returns on that spending, driven by stronger institutions, more competitive universities, and a larger formal-sector labour market. This suggests that Uzbekistan's reform agenda must combine quantity (higher investment) with quality (institutional and pedagogical reform).

Conclusions

This study, drawing on verified open-source data from UNDP, the World Bank, UNESCO, WHO, and national statistical agencies, has analysed the relationship between human capital investments and population welfare in Uzbekistan and arrived at the following principal conclusions:

1. Uzbekistan's HDI rose from 0.596 (2000) to 0.740 (2023), a 24.2% improvement that brought the country into the 'High Human Development' category for the first time (UNDP,

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2024). This progress reflects the cumulative effects of reforms in education, healthcare, and income generation over more than two decades.

2. Life expectancy increased from 73.0 years (2010) to 75.1 years (2024), and the national poverty rate fell from 17% (2021) to 11% (2023), lifting approximately 1.6 million people out of poverty (World Bank, 2024). Rural poverty declined at nearly twice the rate of urban poverty, confirming the welfare impact of targeted rural human capital investments.

3. Critical systemic gaps persist: education expenditure at 5.5% of GDP falls below the internationally recommended 6% threshold; out-of-pocket health payments exceed 50% of total health expenditure; and the Gini coefficient rose to 0.345 — all of which constrain the equitable expansion of human capital and limit its potential welfare impact.

4. In the Central Asian regional comparison (UNDP, 2024), Uzbekistan (HDI 0.740, rank 107) trails Kazakhstan (HDI 0.814, rank 67) by a margin that reflects not only expenditure gaps but also differences in institutional quality and the returns to human capital investment.

5. Uzbekistan's World Bank Human Capital Index of 0.60 (2020) — implying that a child born today will realise only 60% of their potential productivity — provides a concrete, actionable benchmark for policy reform.

Recommendations:

Increase public education expenditure progressively toward 7–8% of GDP, prioritising pre-school education, vocational training, and rural school quality, as evidence suggests the highest returns accrue at these levels; introduce mandatory health insurance to reduce out-of-pocket health payments below 30% of total health expenditure, in line with WHO benchmarks; design targeted human capital programmes for low-skilled workers and rural communities to address the widening Gini coefficient and ensure that growth benefits are equitably distributed; establish a rigorous monitoring and evaluation framework — including public reporting of HCI and HDI sub-indices at the regional level — within the 2022–2026 New Uzbekistan Strategy implementation architecture.

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