

**TASHKENT INTERNATIONAL UNIVERSITY
HUZURIDAGI ILMIY DARAJALAR BERUVCHI
DSc. 22/29.12.2023.I.175.01 RAQAMLI ILMIY KENGASH**

TOSHKENT DAVLAT IQTISODIYOT UNIVERSITETI

USMANOVA AZIZA ALISHEROVNA

**O‘ZBEKISTONDA KAMBAG‘ALLIKNI QISQARTIRISHDA FISKAL
INSTRUMENTLARDAN FOYDALANISH ISTIQBOLLARI**

08.00.07 – Moliya, pul muomalasi va kredit

**Iqtisodiyot fanlari bo‘yicha falsafa doktori (PhD) dissertatsiyasi
AVTOREFERATI**

Toshkent shahri – 2024-yil

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KIRISH (falsafa doktori (PhD) dissertatsiyasi annotatsiyasi)

Dissertatsiya mavzusining dolzarbligi va zaruriyati. Jahonda kambag‘allik global muammolardan biri hisoblanadi. Jahon bankining ma’lumotlariga binoan dunyo aholisining 8,6 foizi yoki 691 million kishi hozirda kambag‘allikda yashamoqda¹. 2030-yilga borib 575 million kishi kambag‘allikda kun kechirishi Birlashgan Millatlar Tashkiloti tomonidan prognoz qilinmoqda². Kambag‘allikni qisqartirish maqsadida dunyo miqyosida katta ishlar olib borilmoqda. Xususan, Birlashgan Millatlar Tashkiloti o‘zining Barqaror rivojlanish maqsadlarida har yerda kambag‘allikning barcha ko‘rinishlariga barham berishni birinchi maqsad qilib belgilagan³. Kambag‘allikka qarshi kurashish iqtisodiy, moliyaviy va ijtimoiy jihatlarini o‘z ichiga olgan kompleks chora-tadbirlarni talab qiladi. Bu jihatlar orasida kambag‘allikka barham berishda hukumatning fiskal siyosati muhim o‘rin egallaydi. Davlatlar fiskal siyosatidan mamlakatning kuchli va barqaror iqtisodiy o‘rinishini ta’minlash va kambag‘allikni qisqartirish uchun foydalanishadi⁴. Bu esa kambag‘allikni qisqartirishda fiskal instrumentlardan foydalanishni takomillashtirishning dolzarbligini ko‘rsatadi.

Jahonda fiskal siyosat orqali kambag‘allikni qisqartirishga qaratilgan bir qancha ilmiy-amaliy tadqiqotlar olib borilmoqda. Kambag‘allikni qisqartirishga qaratilgan dasturlarning samaradorligi hukumat tomonidan amalga oshirilayotgan chora-tadbirlarga bog‘liq. Birlashgan Millatlar Tashkilotining Barqaror rivojlanish kun tartibidan kelib chiqib, mamlakatlar o‘zlarining barqaror rivojlanish milliy dasturlarini ishlab chiqmoqdalar. Kambag‘allikka qarshi kurashishning muvaffaqiyatli namunasi sifatida Xitoy Xalq Respublikasi xizmat qilishi mumkin. Xitoyda qirq yil ichida 800 milliondan ortiq odam kambag‘allikdan chiqarildi, bu jahon tarixidagi eng katta ko‘rsatkich hisoblanadi. Xitoyda kambag‘allikka qarshi siyosat quyidagi beshta asosiy yo‘nalishlarga asoslangan holda amalga oshirildi: mahalliy boshqaruv, inson kapitali, sanoat rivoji, madaniyatning rivoji va ekologiyaga e’tibor. Shuningdek, fiskal siyosat ham Xitoyda kambag‘allikni qisqartirishda muhim rol o‘ynagan⁵. Kambag‘allikka qarshi kurashish uchun kambag‘allikning mohiyatini hamda unga ta’sir qiluvchi omillarni aniqlab olish va shunga mos ravishda fiskal siyosatni takomillashtirish bilan bog‘liq bo‘lgan muammolarni tadqiq qilish masalalari bu boradagi tadqiqotlarning ustuvor yo‘nalishlari hisoblanadi.

O‘zbekistonda bugungi kunda kambag‘allikka barqaror rivojlanishning asosiy to‘sig‘i sifatida qaralmoqda va u hukumat diqqat markazida. Kambag‘allikni kamaytirishga Prezident Sh. Mirziyoyev quyidagicha ta’rif bergan: “Kambag‘allikni kamaytirish – bu aholida tadbirkorlik ruhini uyg‘otish, kasbga tayyorlash va ish o‘rinlarini ko‘paytirishga qaratilgan kompleks vazifadir”⁶. Shundan kelib chiqqan holda, kambag‘allikni qisqartirish uchun fiskal siyosatga tayanch yo‘nalish sifatida

¹ <https://blogs.worldbank.org/en/opendata/poverty-back-pre-covid-levels-globally-not-low-income-countries>

² <https://www.un.org/en/global-issues/ending-poverty>

³ UN General Assembly (UNGA). A/RES/70/1 Transforming our world: the 2030 Agenda for Sustainable Development. Resolut 25, 1–35 (2015).

⁴ <https://www.imf.org/en/Publications/fandd/issues/Series/Back-to-Basics/Fiscal-Policy>

⁵ <https://www.worldbank.org/en/news/press-release/2022/04/01/lifting-800-million-people-out-of-poverty-new-report-looks-at-lessons-from-china-s-experience>

⁶ <https://president.uz/oz/lists/view/6313>

e'tibor qaratilmoqda. Shuningdek, O'zbekiston Respublikasining "Kambag'allikdan farovonlik sari" davlat dasturida "hududlarda aholi turmush shart-sharoitini yaxshilash, tadbirkorlikni rivojlantirish, kambag'allikni qisqartirish va ijtimoiy qo'llab-quvvatlash dasturlarining natijadorligiga erishishda yangicha yondashuv va to'plangan milliy tajribani qo'llash chora-tadbirlarini yanada yuqori bosqichga olib chiqish"⁷ muhim yo'nalishlardan biri sifatida belgilab berilgan. Bu, o'z navbatida, kambag'allikni bartaraf etishda iqtisodiy o'sish, fiskal siyosat, biznes va bandlikni qo'llab-quvvatlash, ijtimoiy qo'llab-quvvatlashni taklif etilishini taqozo qiladi. Shuningdek, mamlakatimizda kambag'allikni qisqartirishda fiskal instrumentlarning va moliyaviy siyosatning ta'sirini o'rganishga yo'naltirilgan ilmiy tadqiqotlarning amalga oshirilishi maqsadga muvofiq.

Mazkur ilmiy tadqiqot O'zbekiston Respublikasi Prezidentining 2022-yil 28-yanvardagi PF-60-son "2022 — 2026-yillarga mo'ljallangan Yangi O'zbekistonning taraqqiyot strategiyasi to'g'risida"gi farmoni, 2024-yil 23-sentabrdagi PF-143-son "Kambag'allikni qisqartirish va aholi turmush farovonligini oshirish borasidagi chora-tadbirlarni yangi bosqichga olib chiqish to'g'risida"gi farmoni, O'zbekiston Respublikasi Prezidentining 2024-yil 4-oktabrdagi PQ-347-son "Kambag'allikni qisqartirish va bandlik sohasida davlat siyosatini takomillashtirish va samaradorlikni oshirish chora-tadbirlari to'g'risida"gi qarori va boshqa ushbu sohadagi normativ-huquqiy hujjatlarda belgilangan vazifalarni amalga oshirishga muayyan darajada xizmat qiladi.

Tadqiqotning respublika fan va texnologiyalari rivojlanishining ustuvor yo'nalishlariga mosligi. Ushbu dissertatsiya tadqiqoti respublika fan va texnologiyalari rivojlanishining I. "Demokratik va huquqiy jamiyatni ma'naviy-axloqiy va madaniy rivojlantirish, innovatsion iqtisodiyotni shakllantirish" deb nomlangan strategik mavzularining ustuvorligiga muvofiq ravishda bajarilgan.

Muammoning o'rganilganlik darajasi. O'zbekistonda kambag'allikni tadqiq qilish va qisqartirish muhim maqsadlardan biridir. Shu sababli mazkur dissertatsiyada jahon iqtisodchilari bilan bir qatorda mamlakatimiz olimlarining tadqiqotlari o'rganilgan.

Kambag'allikning nazariy asosi Rowntree tomonidan ishlab chiqilgan, u kambag'allik chegarasini insonning minimal jismoniy ehtiyojlarini qondirish uchun zarur bo'lgan pul miqdori sifatida ta'riflagan. Townsend, o'z navbatida, kambag'allikni jamiyatda an'anaviy turmush darajasiga rioya qilish uchun resurslarning yetishmasligi deb ta'riflagan⁸. Deaton, Sen, Yunus, Banerji, Dyuflo va Kremer kambag'allikni tushunishga qo'shgan hissalarini uchun iqtisodiyot sohasida Nobel mukofotiga sazovor bo'lishgan. Shuningdek, dissertatsiyada ko'p o'lchovli kambag'allik indeksini ishlab chiquvchilar sifatida Alkire va Fosterning ishlari ham o'rganilgan⁹.

Bundan tashqari, Lustig, Enami, Taqdiri, Destek, Sinha, Sarkodie, Anderson, Tanjung, Song, Jouini, de Mendonça, Ferreira, Cabrera Baca tomonidan olib

⁷ O'zbekiston Respublikasi Prezidentining "Kambag'allikni qisqartirish va aholi turmush farovonligini oshirish borasidagi chora-tadbirlarni yangi bosqichga olib chiqish to'g'risida"gi 143-sonli Farmoni, 23.09.2024.

⁸ Veit-Wilson, J. (1986). Paradigms of Poverty: A Rehabilitation of B.S. Rowntree. *Journal of Social Policy*, 15(1), 69-99. doi:10.1017/S0047279400023114

⁹ Alkire, Sabina, et al. "Multidimensional poverty index 2011: brief methodological note". (2011).

borilgan tadqiqotlar moliyaviy siyosatning kambag'allikka ta'sirini tadqiq qilishga qaratilgan¹⁰. Razmi, Garza-Rodriguez, Balasubramanian, Škare tomonidan olib borilgan tadqiqotlarda iqtisodiy o'sishning kambag'allik darajasiga ta'siri tahlil qilingan¹¹.

Yoqubova, Ablyakova, Umurzakov, Kulmatov, Yuldoshev, Erkinova O'zbekistonda kambag'allik darajasini hisoblash bo'yicha tadqiqotlar olib borishgan¹², Zokirova, Khasanov, Akhmadjanov, Toshmurotov, Alibekova, Mirzayev, Mukhitdinov esa mamlakat uy xo'jaliklarining daromadlarini o'rganishgan¹³. Arabov, Nasimov, Rakhmonov, Kurbanov, Baratov tomonidan aholiga ijtimoiy yordam masalalari tadqiq qiligan¹⁴.

¹⁰ Lustig, Nora, ed. *Commitment to equity handbook: Estimating the impact of fiscal policy on inequality and poverty*. Brookings Institution Press, 2023; Enami, Ali, Nora Lustig, and Alireza Taqdiri. "Fiscal policy, inequality, and poverty in Iran: assessing the impact and effectiveness of taxes and transfers". *Middle East development journal* 11.1 (2019): 49-74; Destek, M.A.; Sinha, A.; Sarkodie, S.A. The relationship between financial development and income inequality in Turkey. *J. Econ. Struct.* 2020, 9, 11.; Anderson, Edward, et al. "Does government spending affect income poverty? A meta-regression analysis." *World Development* 103 (2018): 60-71.; Tanjung, Ahmad Albar, et al. "The impact of monetary and fiscal policy on poverty in Indonesia." (2019).; Song, Junxiu, et al. "Fiscal decentralization and economic growth revisited: an empirical analysis of poverty governance." *Environmental Science and Pollution Research* 29.19 (2022): 28020-28030; Jouini, Nizar, et al. "Fiscal policy, income redistribution, and poverty reduction: Evidence from Tunisia." *Review of Income and Wealth* 64 (2018): S225-S248; de Mendonça, Helder Ferreira, and Adriana Cabrera Baca. "Fiscal opacity and reduction of income inequality through taxation: Effects on economic growth." *The Quarterly Review of Economics and Finance* 83 (2022): 69-82.

¹¹ Razmi, Mohammad Javad, Seyed Mohammad Javad Razmi, and Seyed Saeed Malek Sadati. "The role of institutional conditions in the impact of economic growth on poverty." *International Journal of Business and Economic Sciences Applied Research* 14 (2021): 78-85; Garza-Rodriguez, Jorge. "Poverty and economic growth in Mexico." *Social Sciences* 7.10 (2018): 183.; Balasubramanian, Pooja, Francesco Burchi, and Daniele Malerba. "Does economic growth reduce multidimensional poverty? Evidence from low-and middle-income countries." *World Development* 161 (2023): 106119.; Škare, Marinko, and Romina Pržiklas Družeta. "Poverty and economic growth: a review." *Technological and Economic development of Economy* 22.1 (2016): 156-175

¹² Yoqubova S.Yu. Bozor munosabatlariga o'tish sharoitida aholini ijtimoiy himoyalash (O'zbekiston Respublikasi misolida). Toshkent, 1994, 142-bet; Абякова Ш.А. Совершенствование системы социальной защиты населения Республики Узбекистан в условиях перехода к рыночным отношениям. Ташкент, 1995, 285-стр.; Умурзаков Б.Х. Совершенствование системы социальной защиты нетрудоспособных слоев населения в условиях формирования рыночной экономики. Ташкент, 1995; Kulmatov Ch.A. Bozor iqtisodiyotiga o'tish davrida qishloq aholisining turmush darajasini yaxshilash (Surxondaryo viloyati misolida). Toshkent, 1994, 150-bet; Yuldoshev X.A. Bozor munosabatlariga o'tish sharoitida qishloq aholisining sotsial-iqtisodiy manfaatlarini himoyalash asoslari (Samarqand viloyati misolida). Toshkent, 1995; Эркинова Ф. Формирование механизма управления социальной защиты населения в условиях перехода к рыночной экономике. Ташкент, 1998.

¹³ Zokirova N. Ijtimoiy yo'naltirilgan bozor iqtisodiyoti sharoitida aholini sotsial himoya qilish tizimini takomillashirish (O'zbekiston Respublikasi oilalari misolida). Toshkent, 2001; Xasanov R. Shakllanayotgan bozor munosabatlari tizimida daromadlar va ularning tabaqalanishi. Toshkent 2005.; Akhmadjanov X. O'zbekiston xonadonlari moliya resurslarini shakllanishi va ishlatilishi. Toshkent 2006.; Toshmurotov A.A. Iqtisodiyotni erkinlashtirish sharoitida aholini oziq-ovqat mahsulotlari bilan ta'minlash. Toshkent 2006, 140-bet; Alibekova S. "Формирование и факторы роста уровня жизни населения Узбекистана". Ташкент 2003.; Мирзаев Ш. Пути усиления адресности социальной защиты населения в условиях переходной экономики (на материалах Узбекистана). Ташкент 2006; Muxitdinov X. Aholi turmush darajasini oshirish va hududlar ijtimoiy rivojlanish jarayonlarini modellashtirish. Toshkent 2009.

¹⁴ Arabov N.U. O'zbekiston Respublikasida mehnat bozori infratuzilmasini rivojlantirish samaradorligini oshirish. Monografiya. – T.: "Fan va texnologiyalar" nashriyoti, 2017y. -336 b.; Nasimov D.A. Iqtisodiyotning innovatsion rivojlanishi sharoitida ish bilan bandlik egiluvchanligini ta'minlash mexanizmlarini takomillashtirish. Monografiya. - T.: "Fan va texnologiya", 2018. -260b.; Rakhmonov D.A. Kambag'allik – makroiqtisodiy barqarorlikning dolzarb muammosi / "Yangi O'zbekiston iqtisodiyotining makroiqtisodiy barqarorligini ta'minlash: muammolar, tahlillar va natijalar" nomli onlayn ilmiy masofaviy konferentsiyasi tezislari to'plami, aprel 30, 2020, 14-33 b.; Kurbonov S. P. Aholining unumli va mahsuldor bandligini oshirish asosida kambag'allikni qisqartirish. Iqtisodiyot fanlari bo'yicha falsafa doktorini (PhD) olish uchun yozilgan dissertatsiyasi avtoreferati. T: 2022, 68-bet; Baratov S.N. O'zbekistonda kambag'allikni qisqartirishda budjet siyosati yo'nalishlaridan foydalanish ustuvorliklari. Iqtisodiyot fanlari bo'yicha falsafa doktorini (PhD) olish uchun yozilgan dissertatsiyasi avtoreferati. T: 2024, 57-bet.

Kambag'allik mamlakatimizda dolzarb mavzulardan biri hisoblanadi va kambag'allikni qisqartirishga qaratilgan dasturlar kompleks choralarni o'z ichiga qamrab olishi zarur. Kambag'allikka ta'sir etuvchi omillarni ajratib ko'rsatish va uni bartaraf etish yo'llarini topish muhimdir. O'tkazilgan tadqiqotlardan ko'rinib turibdiki, kambag'allik iqtisodiy jihatlardan ham o'rganila boshlandi, O'zbekiston fiskal siyosatining kambag'allik darajasiga ta'siri hali chuqur o'rganilmagan. Ushbu bo'shliqni to'ldirish uchun mazkur tadqiqot olib borildi.

Dissertatsiya mavzusining dissertatsiya bajarilgan oliy ta'lim muassasasining ilmiy tadqiqot ishlari bilan bog'liqligi. Dissertatsiya tadqiqoti Toshkent davlat iqtisodiyot universiteti "O'zbekiston Iqtisodiyotini rivojlantirishning ilmiy asoslari va muammolari" ilmiy tadqiqot markazida IL21101893-sonli "Kambag'allikni kamaytirish va aholi turmush farovonligini oshirishga qaratilgan ilmiy-nazariy yondashuvlarni ishlab chiqish" mavzusidagi fundamental ilmiy loyiha doirasida bajarilgan.

Tadqiqotning maqsadi O'zbekistonda kambag'allik darajasini tahlil qilish, kambag'allik darajasiga ta'sir qiluvchi fiskal va iqtisodiy omillarni aniqlash, kambag'allikni qisqartirish bo'yicha ilmiy taklif va amaliy tavsiyalar ishlab chiqishdan iborat.

Tadqiqotning vazifalari quyidagilardan iborat:

fiskal siyosatning kambag'allikka ta'sirining ilmiy-nazariy asoslarini o'rganish;

O'zbekiston hududlarini kambag'allik darajasi bo'yicha ekonometrik uslub yordamida tabaqalashtirish;

fiskal va iqtisodiy indikatorlarning kambag'allik darajasiga ta'sirini o'rganish uchun ekonometrik modellar tuzish;

O'zbekistonda kambag'allik darajasini 2030-yilgacha prognoz qiymatini aniqlash;

raqamli texnologiyalardan kambag'allikni hisoblash va qisqartirishda foydalanish bo'yicha takliflar tayyorlash;

O'zbekistonda kambag'allikni qisqartirishda fiskal siyosatdan foydalanishni takomillashtirish yo'nalishlari bo'yicha taklif va tavsiyalar ishlab chiqish.

Tadqiqotning obyekti sifatida O'zbekistonda kambag'allikni qisqartirishdagi fiskal siyosat yo'nalishlari tanlab olingan.

Tadqiqotning predmeti sifatida O'zbekistonda fiskal siyosat yo'nalishlarining kambag'allikni qisqartirish jarayonida vujudga keluvchi iqtisodiy munosabatlar hisoblanadi.

Tadqiqotning usullari. Dissertatsiyada umumlashtirish, korrelyatsion tahlil, ekonometrik guruhlash tahlili, panel ma'lumotlari tahlili, principal component analysis (PCA) hamda vector autoregressive analysis (VAR) singari usullardan foydalanilgan.

Tadqiqotning ilmiy yangiligi quyidagilardan iborat:

O'zbekiston hududlarining sifat mezonlari asosida kambag'allik darajasini yuqori [19,3-34,4], o'rta [11,1-19,22] hamda past [0-10,9] chegaralarini tavsiflovchi baholash usuli taklif etilgan;

hududlarda Random Effects modeli asosida kichik biznes va xususiy tadbirkorlikni qo'llab-quvvatlash, aholi bandlik darajasini oshirish va mehnatga haq

to'lashning hamda pensiya va nafaqalarning eng kam miqdorini oshirish kambag'allikni qisqartirishdagi ijobiy ta'siri asoslangan;

O'zbekistonda ehtiyojmand aholining ijtimoiy nafaqa qamrovi va o'rtacha nafaqa miqdorini oshirish orqali kambag'allikni qisqartirish mexanizmi taklif qilingan;

O'zbekiston Respublikasi bo'yicha kambag'allik darajasi o'zgarishini fiskal instrumentlar ta'siri asosida 2030-yilga qadar ko'p omilli solishtirma prognoz ko'rsatkichlari ishlab chiqilgan.

Tadqiqotning amaliy natijalari quyidagilardan iborat:

O'zbekistonda kambag'allik mavzusi bo'yicha olib borilgan tadqiqotlar davriy va mavzuiy asosda tasniflangan;

O'zbekiston hududlarini kambag'allik darajasi bo'yicha ekonometrik guruhlash mezonlari orqali davlat tomonidan olib borilayotgan ijtimoiy va fiskal siyosatlarining manzilligini ta'minlash asoslangan;

O'zbekistonda kambag'allikni qisqartirishda fiskal siyosat instrumentlarini inobatga olish ekonometrik modellar yordamida asoslangan;

O'zbekistonda kambag'allikni qisqartirishda fiskal instrumentlar bilan bir qatorda bandlik, kichik biznes va tadbirkorlik hamda nafaqa tizimi elementlarini inobatga olinishi zarurligi asoslangan;

O'zbekistonda kambag'allik darajasini 2030-yilgacha prognozlash amalga oshirilgan;

kambag'allikni hisoblashda ishlatiladigan ma'lumotlar ikki guruhga ajratilgan: Remote Sensing data hamda Field data.

Tadqiqot natijalarining ishonchliligi tadqiqot olib borish jarayonida O'zbekiston Respublikasi Iqtisodiyot va moliya vazirligi, O'zbekiston Respublikasi Prezidenti huzuridagi Davlat Statistika agentligi, Kambag'allikni qisqartirish va bandlik vazirligining rasmiy ma'lumotlari va Jahon Bankining moliyaviy, iqtisodiy hamda ijtimoiy siyosatga doir rasmiy statistik ma'lumotlaridan foydalanilganligi, me'yoriy-huquqiy hujjatlarning mavzuga tegishli qismlari atroflicha ko'rib chiqilganligi bilan belgilanadi.

Tadqiqot natijalarining ilmiy va amaliy ahamiyati. Tadqiqot natijasining ilmiy ahamiyatini O'zbekistonlik tadqiqotchilarning kambag'allik sohasidagi ishlarini guruhlash, kambag'allik darajasi bo'yicha O'zbekiston hududlarini toifalarga ajratishning ilmiy asoslangan mezonlarini topish, kambag'allik darajasiga ta'sir etuvchi omillarni aniqlash bilan izohlash mumkin.

Tadqiqot natijalarining amaliy ahamiyatini ishlab chiqilgan ilmiy takliflar va tavsiyalardan respublikada kambag'allikni kamaytirishga qaratilgan dastur va strategiyalarda foydalanish mumkinligi bilan izohlash mumkin.

Tadqiqot natijalarining joriy qilinishi. O'zbekistonda kambag'allikni qisqartirishda fiskal siyosatning ustuvorliklaridan foydalanishni takomillashtirish yo'nalishlari bo'yicha olingan ilmiy natijalar asosida:

O'zbekiston hududlarining sifat mezonlari asosida kambag'allik darajasini yuqori [19,3-34,4], o'rta [11,1-19,22] hamda past [0-10,9] chegaralarini tavsiflovchi baholash usuli taklifi O'zbekiston Respublikasi Kambag'allikni qisqartirish va bandlik vazirligi tomonidan hududlarda kambag'allik darajasining dinamikasini

aniqlash hamda kambag'al aholining balansini shakllantirishda foydalanilgan (Kambag'allikni qisqartirish va bandlik vazirligining 2024-yil 20-iyundagi 01/00-03/28-6099-sonli ma'lumotnomasi). Mazkur ilmiy yangilikning amaliyotga joriy etilishi natijasida O'zbekiston Respublikasi Prezidentining 2024-yil 21-fevraldagi "O'zbekiston – 2030" strategiyasini "Yoshlar va biznesni qo'llab-quvvatlash yili"da amalga oshirishga oid davlat dasturi to'g'risida"gi PF–37-sonli Farmoni 1-ilovasining 27-maqсад 76-bandi ijrosini ta'minlashga imkon yaratilgan;

Hududlarda Random Effects modeli asosida kichik biznes va xususiy tadbirkorlikni qo'llab-quvvatlash, aholi bandlik darajasini oshirish va mehnatga haq to'lash hamda pensiya va nafaqalarning eng kam miqdorini oshirishning kambag'allikni qisqartirishdagi ijobiy ta'siri bo'yicha takliflar O'zbekiston Respublikasi Kambag'allikni qisqartirish va bandlik vazirligi faoliyatida foydalanilgan (Kambag'allikni qisqartirish va bandlik vazirligining 2024-yil 20-iyundagi 01/00-03/28-6099-sonli ma'lumotnomasi). Mazkur ilmiy yangilik natijasi asosida O'zbekistonda kichik biznes va xususiy tadbirkorlikning yalpi hududiy mahsulotdagi ulushini 1 foizga oshirish orqali hududlarda kambag'allik darajasi 0,26 foizga qisqarishi, aholi bandlik darajasini 1 foizga oshirish orqali hududlarda kambag'allik darajasi 0,24 foizga qisqarishi, mehnatga haq to'lashning hamda pensiya va nafaqalarning eng kam miqdorini 1 foizga oshirish orqali hududlarda kambag'allik darajasini mos ravishda 0,04 hamda 0,21 foizlarga qisqarishi asoslangan hamda kambag'allik darajasini qisqartirish bo'yicha strategik dasturlarni ishlab chiqish imkonini bergan;

O'zbekistonda ehtiyojmand aholining ijtimoiy nafaqa qamrovi va o'rtacha nafaqa miqdorini oshirish orqali kambag'allikni qisqartirish mexanizmi taklifi O'zbekiston Respublikasi Kambag'allikni qisqartirish va bandlik vazirligi tomonidan O'zbekiston Respublikasi Prezidentining 2024-yil 21-fevraldagi "O'zbekiston – 2030" strategiyasini "Yoshlar va biznesni qo'llab-quvvatlash yili"da amalga oshirishga oid davlat dasturi to'g'risida"gi PF–37-sonli Farmoni 1-ilovasining 52-bandi ijrosini ta'minlash uchun foydalanilgan (Kambag'allikni qisqartirish va bandlik vazirligining 2024-yil 20-iyundagi 01/00-03/28-6099-sonli ma'lumotnomasi). Mazkur ilmiy yangilikning joriy qilinishi orqali O'zbekistonda ehtiyojmand aholining ijtimoiy nafaqa qamrovini va o'rtacha nafaqa miqdorini o'n foizga oshirish orqali hududlarda kambag'allik darajasini 2,16 foizga qisqarishi asoslandi hamda mahalladagi har bir ijtimoiy himoyaga muhtoj aholini to'liq ijtimoiy himoya qilish tizimi orqali qamrab olishni ta'minlashga xizmat qildi;

O'zbekiston Respublikasi bo'yicha kambag'allik darajasi o'zgarishini fiskal instrumentlar ta'siri asosida 2030-yilga qadar ishlab chiqilgan ko'p omilli solishtirma prognoz ko'rsatkichlaridan O'zbekiston Respublikasi Kambag'allikni qisqartirish va bandlik vazirligi tomonidan foydalanilgan (Kambag'allikni qisqartirish va bandlik vazirligining 2024-yil 20-iyundagi 01/00-03/28-6099-sonli ma'lumotnomasi). Mazkur ilmiy yangilik natijasida 2030-yilga qadar O'zbekistonda 95 foizlik ishonchlilik darajasida kambag'allik darajasi optimal prognozga ko'ra 5,26 foizni tashkil qilishi aniqlandi va ilmiy yangilikning amaliyotga joriy etilishi orqali ijtimoiy-iqtisodiy rivojlantirish va kambag'allikni qisqartirish dasturining istiqboldagi ko'rsatkichlarini o'zaro muvofiqlashtirish imkoni yaratilgan.

Tadqiqot natijalarining aprobatsiyasi. Ushbu tadqiqot natijalari 7 ta, jumladan, Scopus bazasida indekslangan 4 ta xalqaro konferensiyada, 1 ta xalqaro hamda 2 ta respublika ilmiy-amaliy konferensiyalarda aprobatsiyadan o'tkazilgan.

Tadqiqot natijalarining e'lon qilinishi. Dissertatsiya mavzusi bo'yicha jami 12 ta ilmiy ish, shu jumladan, Web of Science va Scopus bazalarida indekslangan jurnallarda 2 ta maqola hamda O'zbekiston Respublikasi Oliy attestatsiya komissiyasining doktorlik dissertatsiyalari asosiy ilmiy natijalarini chop etish bo'yicha tavsiya etilgan mahalliy jurnallarda 3 ta maqola nashr etilgan. Ilmiy-amaliy konferensiyalarda 7 ta maqolalar va ma'ruza tezislari nashr etilgan.

Dissertatsiyaning tuzilishi va hajmi. Dissertatsiya ishi kirish, uchta bob, xulosa va foydalanilgan adabiyotlar ro'yxatidan tarkib topgan. Dissertatsiya hajmi 132 betni tashkil etadi.

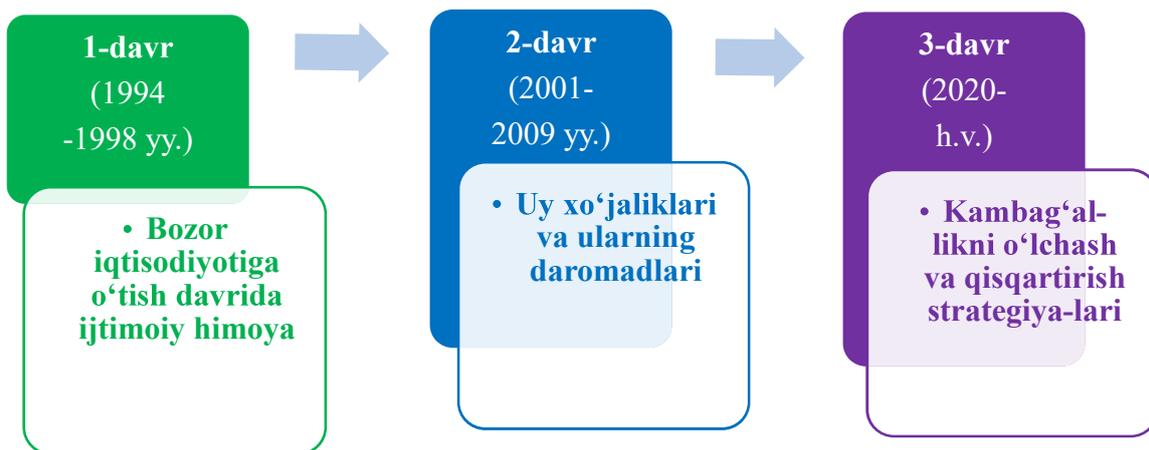
DISSERTATSIYANING ASOSIY MAZMUNI

Dissertatsiya ishining **kirish** qismida tadqiqot mavzusining dolzarbligi va zaruriyati asoslangan, muammoning o'rganilganlik darajasi, tadqiqotning maqsadi, vazifalari hamda obyekt va predmeti, ilmiy yangiligi va amaliy natijalari, tadqiqot natijalarining ishonchliligi va joriy etilishi, dissertatsiya tuzilishi va hajmi bo'yicha ma'lumotlar keltirilgan.

Dissertatsiyaning "**Kambag'allikni qisqartirishda fiskal siyosat ta'sirining nazariy ilmiy metodologik asoslari**" deb nomlangan birinchi bobida kambag'allikning ta'rifi va uning iqtisodiy o'sishga ta'siri, fiskal siyosatning kambag'allikka ta'siri, xorijiy mamlakatlarning kambag'allikni kamaytirish bo'yicha amalga oshirayotgan ishlari o'rganilgan.

Dunyoda kambag'allik mavzusi doimo dolzarb mavzulardan biri hisoblanadi va bu hodisani turli jihatlaridan o'rganish uchun ko'plab tadqiqotlar olib borilgan. O'zbekiston mustaqillikka erishgandan so'ng kambag'allik mavzusida bir qator tadqiqotlar amalga oshirilgan. Ushbu tadqiqotlarda mamlakat iqtisodiyoti sotsialistik munosabatlardan bozor munosabatlariga o'tayotgan bir paytda kambag'allarni qo'llab-quvvatlash choralari aks ettirilgan, lekin yigirma birinchi asrning birinchi choragida bu kabi izlanishlar to'xtab qolgan. Bu sohadagi vaziyat mustaqil O'zbekistonning ikkinchi prezidenti – Sh. Mirziyoyev mamlakatda kambag'allik mavjud ekanligini rasman tan olgani va kambag'allik darajasini pasaytirish va kam ta'minlanganlarni qo'llab-quvvatlashga qaratilgan bir qancha farmonlarni imzolagandan keyin o'zgardi va kambag'allik bo'yicha turli tadqiqotlar olib borilishi boshlandi. Dissertatsiya ishida kambag'allik mavzusida shu vaqtgacha olib borilgan tadqiqotlar to'plangan va guruhlangan. O'zbekistonda kambag'allik bo'yicha olib borilgan tadqiqotlarning turkumlanishini 1-rasmda ko'rish mumkin.

Fiskal siyosat mamlakatning asosiy siyosatlaridan biri bo'lib, fiskal instrumentlar yordamida davlat butun iqtisodiyotni boshqarishi mumkin. Shu bilan birgalikda, fiskal siyosatni yuritish orqali davlat bozorlar va milliy daromadning taqsimlanishini ham kuzatishi mumkin. Moliyaviy siyosatning mohiyati va yo'nalishlari davlat budjetida aks ettirilgan. Davlat budjeti mamlakatning fiskal siyosatini yuritishning asosidir.



1-rasm. O‘zbekistonda kambag‘allik mavzusida olib borilgan tadqiqotlarning davrlar bo‘yicha turkumlanishi¹⁵

Kambag‘allikni qisqartirishda fiskal siyosatning ahamiyati katta. Mamlakat fiskal siyosatining kambag‘allikka ta’siri bo‘yicha dunyoda ko‘plab tadqiqotlar o‘tkazilgan va ularni uchta guruhga ajratish mumkin. Birinchi guruh tadqiqotchilari soliq tizimi va soliqqa tortishning kambag‘allik darajasiga ta’sirini tahlil qilishgan bo‘lishsa, ikkinchi guruh tadqiqotchilari esa davlat xarajatlariga e’tibor qaratishgan. Uchinchi guruh tadqiqotchilari davlat daromadlari va xarajatlarini kambag‘allik darajasiga birgalikdagi ta’sirini o‘rganishgan.

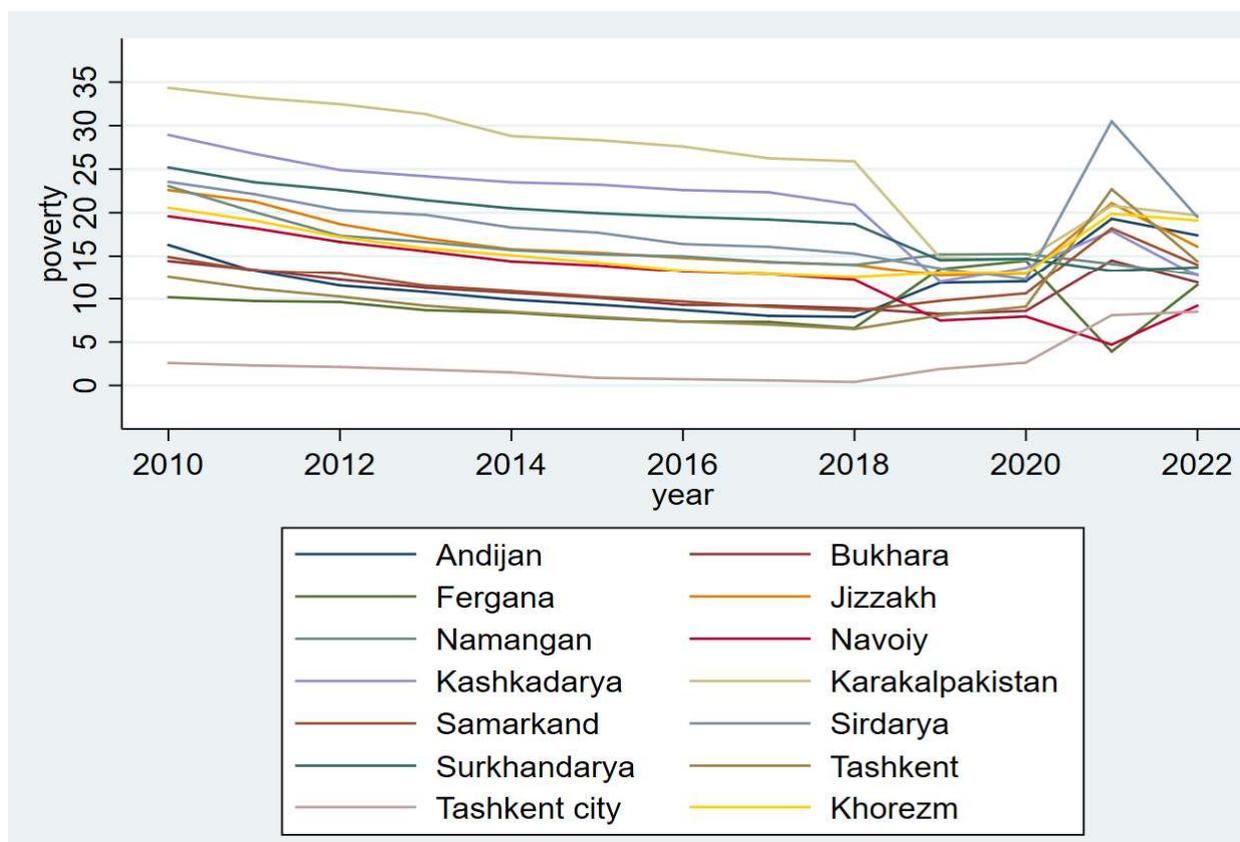
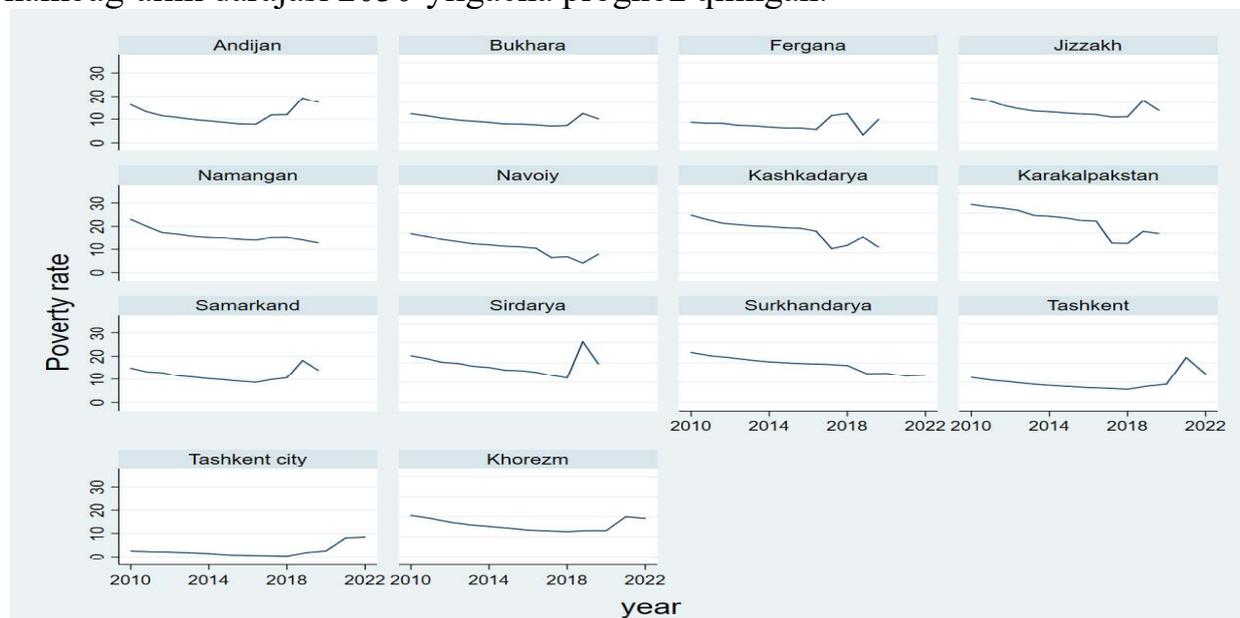
Kambag‘allikni qisqartirishda xorij tajribasini o‘rganish ham katta ahamiyatga ega. Xususan, bu borada Xitoy tajribasi e’tiborga molik. 1978-yildan 2021-yilgacha Xitoyda 800 millionga yaqin kishi kambag‘allikdan chiqarilgan. Xitoyda ijtimoiy siyosat qamrovini oshirish iqtisodiy o‘shirishni ta’minlash va inklyuzivlikni oshirishga xizmat qilgan. Xitoyning ijtimoiy himoya siyosati ijtimoiy sug‘urta, ijtimoiy yordam, ijtimoiy nafaqa va ijtimoiy davolanishlarni o‘z ichiga oladi.

Hindistonda kambag‘allikni qisqartirishda kichik tadbirkorlikni qo‘llab-quvvatlashga ahamiyat qaratilgan. Buning uchun Small Industries Development Bank of India va National Bank for Agricultural and Rural Development banklari tashkil qilingan. Bundan tashqari, kambag‘al aholining moliyaviy savodxonligini oshirish uchun banklar tomonidan yordam dasturlari ham joriy qilingan. Mazkur olib borilgan choralar tufayli Hindistonda kambag‘allar soni 9 yil ichida (2013-2022) 248 millionga kamaygan hamda kambag‘al aholi soni 29 foizdan 11 foizga tushgan.

Janubiy Koreyada kambag‘allikni qisqartirish “Unumli farovonlik” deb nomlanuvchi modelga tayanib u barcha Koreya fuqarolarining turmush darajasini yaxshilash, shu bilan birga ijtimoiy rivojlanishni rag‘batlantirish va milliy boylikni teng taqsimlashga qaratilgan. Hukumat eng kam ish haqini belgilagan va tibbiy sug‘urta qamrovini kengaytirgan. Bundan tashqari, daromad oladigan har bir kishi uchun nafaqa ta’minotini kafolatlagan.

¹⁵ Muallif ishlanmasi.

Dissertatsiyaning “Fiskal siyosatning hamda iqtisodiy indikatorlarning kambag‘allik darajasiga ta’sirining tahlili” nomli ikkinchi bobida guruh modeli asosida mamlakat hududlari kambag‘allik darajasi bo‘yicha guruhlangan, so‘ng panel ma’lumotlari tahlili yordamida moliyaviy va iqtisodiy indikatorlarning kambag‘allikka ta’siri tahlil qilingan hamda vaqtli qatorlar modeli orqali kambag‘allik darajasi 2030-yilgacha prognoz qilingan.



2-rasm. O‘zbekiston hududlari bo‘yicha kambag‘allik darajasi dinamikasi (2010-2022 yy.)¹⁶

¹⁶ O‘zbekiston Respublikasi Prezidenti huzuridagi Davlat Statistika agentligi ma’lumotlari asosida tayyorlangan.

2-rasmda O‘zbekistonning 14 ta hududlari bo‘yicha 2010–2022-yillar davomidagi kambag‘allik darajasi dinamikasi keltirilgan. Berilgan grafiklardan ko‘rish mumkinki, barcha hududlar turli trendlarni namoyon qilgan, boshlang‘ich nuqtalari ham turlicha bo‘lgan. Shu turfalik bilan birgalikda barcha hududlarni umumlashtirgan jihat – bu 2021-yildan boshlangan anomal o‘zgarishlar. Kambag‘allik darajasidagi ushbu anomal o‘zgarishlarning sababi mamlakatda 2021-yildan boshlab kambag‘allikni hisoblash metodologiyasidagi o‘zgarishdir.

2019-yildan 2021-yilgacha Andijon, Farg‘ona, Namangan, Samarqand va Xorazm viloyatlari hamda Toshkent shahrining kambag‘allik darajasida o‘shir kuzatilgan. Agar 2019-yildagi kambag‘allik darajasini 2018-yil bilan taqqoslasa kambag‘allik darajasi Andijonda 1.5 baravarga (7.9 %dan 11.9 %gacha), Farg‘onada 6.6 %dan 13.5 %gacha, Namanganda 14 %dan 15.2 %gacha, Samarqandda 8.6 %dan 9.8 %gacha, Xorazmda 12.5 %dan 13 %gacha hamda Toshkent shahrida 0.4 %dan 1.9 %gacha o‘sganini ko‘rish mumkin. Shuningdek, quyidagi hududlarda kuzatuv davrining so‘ngida davrning boshlang‘ich nuqtasiga qaraganda yuqoriroq kambag‘allik darajasi qayd etilgan: Andijon (16.3 % va 17.4 %), Farg‘ona (10.2 % va 11.6 %), Toshkent (12.5 % va 14.4 %), Toshkent sh. (2.6 % va 8.5 %).

O‘zbekiston hududlari kambag‘allik darajasi bo‘yicha bir-biridan farq qiladi, shuning uchun hududlarni kambag‘allik darajasi bo‘yicha toifalarga bo‘lish uchun guruh tahlili o‘tkazildi. Buning uchun 2010-yildan 2022-yilgacha bo‘lgan davrda 14 ta hududda kambag‘allik darajasi to‘g‘risidagi ma‘lumotlar to‘plangan va hududlar uch toifaga bo‘lingan:

- kambag‘allik darajasi yuqori bo‘lgan hududlar;
- kambag‘allik darajasi o‘rtacha bo‘lgan hududlar;
- kambag‘allik darajasi quyi bo‘lgan hududlar.

Guruh tahlili natijasida jami kuzatuvlar soni 182 tani tashkil etishini ko‘rish mumkin (1-jadval). Ushbu kuzatuvlarning deyarli chorak qismi “Kambag‘allik darajasi yuqori” guruhiga tegishli. Biroq, eng ko‘p kuzatuvlar (83) “Kambag‘allik darajasi o‘rtacha” guruhida joylashgan. Kuzatuvlarning uchdan bir qismi esa “Kambag‘allik darajasi quyi” deb nomlangan uchinchi guruhdan o‘rin olgan.

1-jadval

Kambag‘allik darajasi bo‘yicha shakllantirilgan guruhlarining ta‘rifi¹⁷

Guruh	Chastotasi	Foiz	Kumulyativ
1. “Kambag‘allik darajasi yuqori”	43	23.63	23.63
2. “Kambag‘allik darajasi o‘rtacha”	83	45.60	69.23
3. “Kambag‘allik darajasi quyi”	56	30.77	100.00
Jami	182	100.00	

Guruhlarining chegaralari 2-jadvalda keltirilgan. “Kambag‘allik darajasi yuqori” guruhning minimal chegarasi 19,3 % va maksimal chegarasi 34,337 5%ni

¹⁷ Muallif tomonidan hisoblangan natijalar.

tashkil qiladi. Agar kambag'allik darajasi 11,17921 %dan 19,21279 %gacha bo'lsa, hudud "Kambag'allik darajasi o'rtacha" guruhiga kiritilgan. Agar hududda kambag'allik darajasi 10,9 %dan past bo'lsa, hudud "Kambag'allik darajasi quyi" bo'lgan guruhdan joy olgan.

Guruhlar bo'yicha hududlarning rivojlanishini ko'rish uchun quyidagi yillar tanlangan: 2010, 2020, 2021 va 2023. Kuzatuvlarning boshlang'ich nuqtasi 2010-yil va oxirgi nuqtasi 2023-yil. 2020-yil kambag'allik darajasi kuniga 2100 kilokaloriya iste'moli asosida hisoblangan oxirgi yil sifatida tanlandi, shuningdek, bu yilda COVID-19 pandemiyasi sodir bo'ldi. 2021-yil kambag'allik darajasini hisoblashning yangi metodologiyasining birinchi yili sifatida tanlandi (3-rasm).

2-jadval

Kambag'allik darajasi bo'yicha shakllantirilgan guruhlarining chegaralari¹⁸

Guruh	Minimal chegara	O'rtacha qiymat	Maksimal chegara
1. "Kambag'allik darajasi yuqori"	19.3	23.8329	34.3375
2. "Kambag'allik darajasi o'rtacha"	11.17921	14.60287	19.21279
3. "Kambag'allik darajasi quyi"	0,4	7.24193	10.9
Jami	0,4	14.51869	34.3375

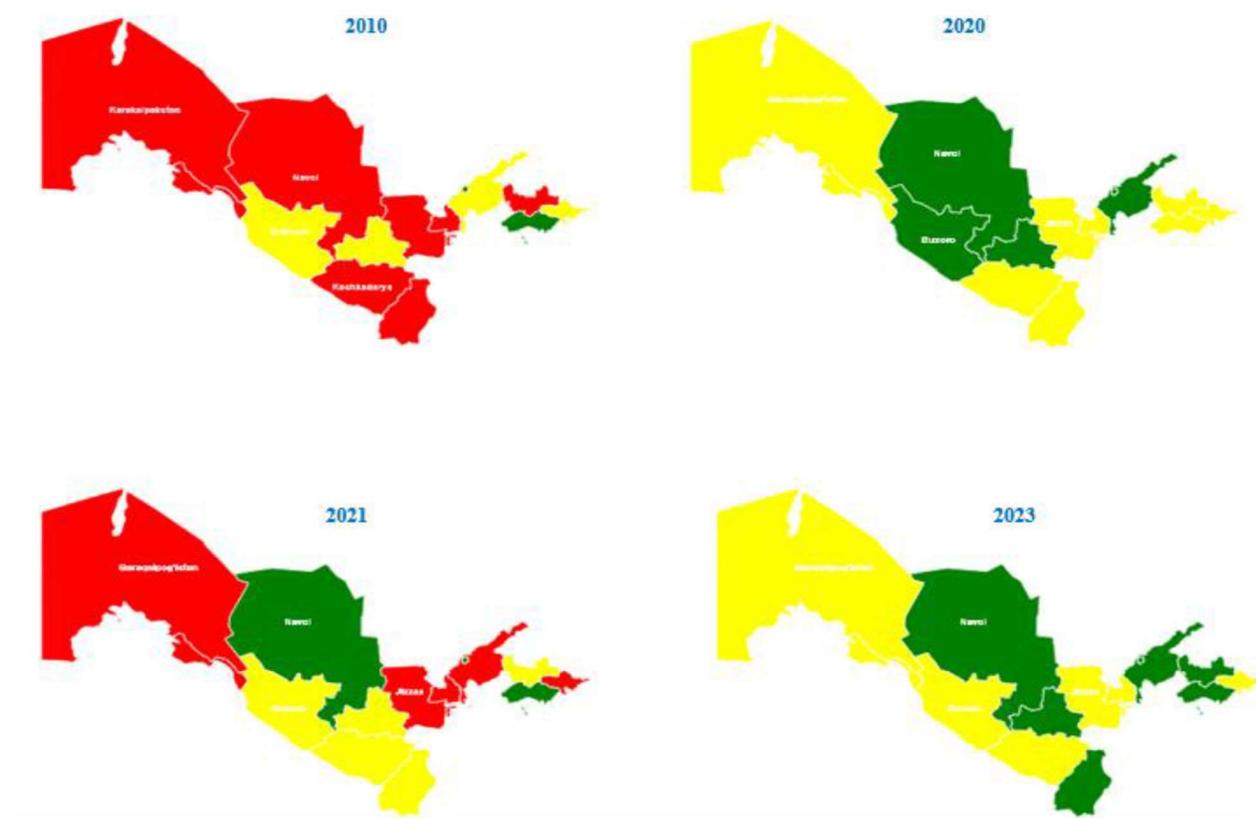
O'zbekistonda fiskal va iqtisodiy indikatorlarning kambag'allik darajasiga ta'sirini o'rganish uchun ekonometrik modellar tuzish dissertatsiyaning asosiy vazifalaridan biri hisoblanadi. Buning uchun panel ma'lumotlari tahlili amalga oshirildi. Panel ma'lumotlari tahlilini amalga oshirish uchun 2010–2020-yillar davomidagi ma'lumotlar 14 ta hudud bo'ylab yig'ildi, so'ng, uchta model tuzildi: Fixed Effects Model, Random Effects Model hamda Pooled Model. Tuzilgan modellardan optimali Hausman testi orqali aniqlandi (7-jadval).

Ekonometrik modellarni tuzishda quyidagi o'zgaruvchilardan foydalanilgan:

Kam ta'minlangan aholi ulushi (kambag'allik darajasi). Bu bog'liq o'zgaruvchidir. O'lchov birligi foizda. Ushbu ko'rsatkich O'zbekiston Respublikasi Prezidenti huzuridagi Davlat Statistika agentligi tomonidan Jahon banki tavsiyalari asosida kuniga 2100 kilokaloriya iste'moli bo'yicha hisoblab chiqilgan. Kambag'allik darajasini hisoblashning ushbu metodologiyasi 2000-yildan 2020-yilgacha amal qilgan. Vazirlar Mahkamasining 2021-yil 27-avgustdagi 544-son qaroriga asosan 2021-yildan boshlab metodologiya o'zgardi va aholi daromadlarining eng kam iste'mol xarajatlari (EIX) miqdori orqali hisoblab chiqila boshlandi. Kambag'allikni hisoblash 2000-yilda boshlanganligi sababli, 2000-yil ushbu tahlilning boshlang'ich nuqtasi bo'ldi, tahlilning oxirgi yili esa 2020-yil bo'ldi. Buning sababi 2021-yildan boshlab kambag'allikni hisoblash

¹⁸ Muallif tomonidan hisoblangan natijalar.

metodologiyasining o'zgartirilgani bo'ldi. 2021- va 2022-yildagi kambag'allik darajasini modelda qo'llash ishonchsiz natijalarga olib keladi.



3-rasm. O'zbekistonda kambag'allik darajasining hududlar bo'yicha guruhlanishi

Fiskal desentralizatsiya indeksi – tadqiqotchi tomonidan O'zbekiston hududlari bo'yicha tuzilgan indeks. Fiskal desentralizatsiya indeksini hududlar uchun hisoblashda Shibosho metodologiyasidan foydalanildi. Indeksni tuzishda mahalliy budjetlarning ikkita ko'rsatkichlaridan foydalanildi: 1) mahalliy budjet soliq tushumlarining jami umumdavlat soliq tushumlaridagi ulushi; 2) mahalliy budjet xarajatlarining jami umumdavlat budjet xarajatlaridagi ulushi.

Hududlardagi aholi sonining o'sish sur'ati – bu demografik vaziyatni nazorat qilish uchun olingan nazorat o'zgaruvchisi. O'lchov birligi – foiz. Bu o'zgaruvchi Kibirige¹⁹, Yip²⁰ va Adhika²¹ tadqiqotlariga asoslangan holda modelga kiritilgan.

Yalpi hududiy mahsulot jon boshiga (YaHM) – bu o'zgaruvchi hududlarning iqtisodiy o'sishi kambag'allik darajasini pasaytiruvchi xarakterga ega yoki yo'qligini tahlil qilish uchun modelga kiritilgan. Logarifmlangan.

¹⁹ Kibirige, Joachim S. "Population growth, poverty and health." *Social Science & Medicine* 45.2 (1997): 247-259.

²⁰ Yip, Paul SF, et al. "Assessing the impact of population dynamics on poverty measures: A decomposition analysis." *Social Indicators Research* 134 (2017): 531-545.

²¹ Adhika, Rismana, and Sri Ulfa Sentosa. "Could Economic Growth Moderate Population, Education and Unemployment to Poverty in Indonesia?." *The Fifth Padang International Conference On Economics Education, Economics, Business and Management, Accounting and Entrepreneurship (PICEEBA-5 2020)*. Atlantis Press, 2020.

Korrelyatsiya matritsasi²²

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) Kambag'allik darajasi	1.00								
(2) Fiskal desentralizatsiya indeksi	-0.27 (0.01)	1.00							
(3) Aholi sonining o'sish sur'ati	-0.27 (0.00)	0.67 (0.00)	1.00						
(4) COVID19	-0.13 (0.11)	-0.32 (0.00)	0.08 (0.15)	1.00					
(5) YaHM	-0.56 (0.00)	-0.29 (0.00)	0.13 (0.02)	0.32 (0.00)	1.00				
(6) O'rtacha nafaqa miqdori	-0.42 (0.00)	-0.41 (0.00)	0.17 (0.00)	0.29 (0.00)	0.98 (0.00)	1.00			
(7) Minimal nafaqa miqdori	-0.35 (0.00)	-0.46 (0.00)	0.21 (0.00)	0.30 (0.00)	0.96 (0.00)	0.99 (0.00)	1.00		
(8) Nafaqa oluvchi insonlarning soni	-0.41 (0.00)	0.65 (0.00)	0.96 (0.00)	0.10 (0.10)	0.04 (0.47)	0.05 (0.39)	0.07 (0.21)	1.00	
(9) Minimal ish haqi	-0.32 (0.00)	-0.39 (0.00)	0.21 (0.00)	0.40 (0.00)	0.96 (0.00)	0.98 (0.00)	0.99 (0.00)	0.09 (0.14)	1.00

²² Muallif tomonidan hisoblangan natijalar.

COVID-19 – dummy o‘zgaruvchi bo‘lib, u modelda COVID-19 pandemiyasining ta‘sirini aks ettirishga yordam beradi. Ushbu pandemiya O‘zbekistonda 2020-yilda boshlangani bois bu yil 1 deb, undan oldingi yillar esa 0 deb kodlangan.

Bandlik darajasi – O‘zbekiston hududlaridagi bandlik darajasi (foizda).

Kichik biznesning YaHMDagi ulushi – bu o‘zgaruvchi hududlardagi kichik biznesning ulushi kambag‘allik darajasiga ta‘sir qilish yoki qilmasligini aniqlash uchun modelga kiritilgan (foizda).

Nafaqa oluvchi insonlarning soni – hududlardagi nafaqa oluvchi insonlarning soni. Logarifmlangan.

O‘rtacha nafaqa miqdori – hududlardagi o‘rtacha nafaqa miqdori. Logarifmlangan.

Minimal nafaqa miqdori – hududlardagi minimal nafaqa miqdori. Logarifmlangan.

Panel ma‘lumotlari tahlilini amalga oshirishdan oldin o‘zgaruvchilar orasida korrelyatsion munosabat mavjud ekanligini aniqlash uchun korrelyatsiya tahlili amalga oshirildi. Korrelyatsiya tahlili natijalari 3-jadvalda aks etgan. Korrelyatsiya tahlili natijasidan o‘zgaruvchilar orasida statistik ahamiyatga ega munosabatlar mavjud ekanligini ko‘rish mumkin.

4-jadval

Fiskal desentralizatsiya indeksining kambag‘allik darajasiga ta‘siri (Random Effects Model)²³

Kambag‘allik darajasi	Coef.	St.Err.	t-value	p-value	[95% Conf Interval]	Sig
Fiskal desentralizatsiya indeksi	-4.58	1.986	-2.31	.021	-8.472 - .688	**
Aholi sonining o‘shish sur‘ati	3.423	1.206	2.84	.005	1.059 5.787	***
COVID_19	-.746	.846	-0.88	.378	-2.405 .913	
YaHM	-9.235	1.571	-5.88	0	-12.315 -6.155	***
Constant	153.173	24.378	6.28	0	105.394 200.953	***
Mean dependent var		12.779	SD dependent var			6.014
Overall r-squared		0.443	Number of obs			98
Chi-square		41.147	Prob > chi2			0.000
R-squared within		0.274	R-squared between			0.480
*** $p < .01$, ** $p < .05$, * $p < .1$						

So‘ng, panel ma‘lumoti tahlili amalga oshirildi. Buning uchun avval bitta model topilib, so‘ng unga bittadan o‘rganiladigan o‘zgaruvchilar qo‘shildi. 4-jadvalda bazaviy model keltirilgan. Bunda Random Effects model tuzilgan. Tuzilgan model bir foizlik darajada statistik ahamiyatga ega. Ushbu model natijalaridan xulosa qilish mumkin-ki, fiskal desentralizatsiya indeksining bir birlikka oshishi kambag‘allik darajasini 4.58 foizga tushishiga olib kelar ekan va

²³ Muallif tomonidan hisoblangan natijalar.

ushbu natija besh foizlik darajada statistik ahamiyatga ega. Bundan tashqari, yalpi hududiy mahsulotning jon boshiga ortishi ham kambag'allik darajasining qisqarishiga olib kelar ekan. Yanada aniqroq aytiladigan bo'lsa, yalpi hududiy mahsulotning jon boshiga o'n foizga ortishi kambag'allik darajasini 0.423 foizga tushishiga olib kelar ekan va ushbu natija bir foizlik darajada statistik ahamiyatga ega. Yuqorida keltirilgan natijalarga asoslangan holda mahalliy budjetlarga o'z daromadlari va xarajatlarini boshqarishda erkinlik berilishi kambag'allik darajasini kamaytirishga sabab bo'lishi haqida xulosa qilish mumkin.

5-jadvalda bandlik darajasi va kichik biznes ulushining kambag'allik darajasiga ta'siri o'rganilgan. Buning uchun 1-modelga bittadan mazkur o'zgaruvchilar qo'shilgan. Tuzilgan modellar bir foizlik statistik ahamiyatga ega hamda Random Effects Model (REM) uslubida tuzilgan. 2-modelda bandlik darajasining kambag'allik darajasiga ta'siri aks etgan. Olingan natija bandlik darajasining bir foizga oshishi kambag'allik darajasini 0.24 foizga kamayishiga olib kelishini ko'rsatgan va mazkur ta'sir bir foizlik statistik ahamiyatga ega. 3-modelda esa kichik biznes ulushining oshishi kambag'allik darajasiga qanday ta'sir qilishi o'rganilgan. Model natijalariga binoan kichik biznes ulushining bir foizga oshishi kambag'allik darajasini 0.26 foizga qisqartirishi aniqlangan. Mazkur tuzilgan modellarning yana bir ahamiyatga molik jihati, barcha modellarda fiskal desentralizatsiya indeksi kambag'allikka negativ ta'sir qilishi aniqlangan va mazkur natija statistik ahamiyatga ega bo'lgan.

5-jadval

Bandlik darajasi va kichik biznesning kambag'allik darajasiga ta'siri²⁴

O'zgaruvchi	1-model (REM)	2-model (REM)	3- model (REM)
Fiskal desentralizatsiya indeksi	-4.580119**	-3.4557599*	-7.132505***
Aholi sonining o'sish sur'ati	3.4229997***	2.8950318**	2.7451147**
COVID_19	-0.746	-1.194	-1.171
YaHM	-9.2349933***	-7.9858774***	-13.986507***
Bandlik darajasi		-0.23591546**	
Kichik biznes			-0.26134797***
cons	153.17324***	150.16465***	248.19202***

legend: * p<.1; ** p<.05; *** p<.01

So'ng, 6-jadvalda minimal ish haqi hamda nafaqa tizimi elementlarining kambag'allikka ta'siri o'rganilgan. Barcha tuzilgan modellar bir foizlik darajada statistik ahamiyatga ega. 4-modelda Random Effects Modeli yordamida minimal ish haqining kambag'allik darajasiga ta'siri o'rganilgan. Tahlil natijasiga binoan minimal ish haqining o'n foizga oshishi kambag'allik darajasini 0.434 foizga kamayishiga olib kelishi aniqlangan.

Nafaqa tizimi elementlaridan esa nafaqa oluvchi insonlarning soni eng kuchli ta'sir qiluvchi omil ekanligi Fixed Effects Model yordamida aniqlangan (5-model). Nafaqa oluvchi insonlar sonining 10 foizga oshishi kambag'allik darajasini 2.16 foizga kamaytirishi aniqlangan.

²⁴ Muallif tomonidan hisoblangan natijalar.

Minimal ish haqi va nafaqa tizimi elementlarini kambag'allik darajasiga ta'siri²⁵

O'zgaruvchi	4-model (REM)	5-model_ (FEM)	6- model (REM)	7-model (REM)
Fiskal desentralizatsiya indeksi	-3.4796034*	-8.2476186***	-9.3062741***	-5.7203783**
Aholi sonining o'sish sur'ati	2.8349933**	1.284	3.153791***	2.1121818*
COVID_19	1.786	0.272	0.227	-1.346
YaHM	0.19129378*	0.084	0.052	0.040
Minimal ish haqi	-4.3365884***			
Nafaqa oluvchi insonlarning soni		-21.58562***		
O'rtacha nafaqa miqdori			-8.9837211***	
Minimal nafaqa miqdori				-21.392928***
cons	60.103835***	280.09111***	130.09134***	278.12012***

legend: * p<.1; ** p<.05; *** p<.01

Bundan tashqari, minimal nafaqa miqdori ham kambag'allik darajasiga kuchli ta'sir qilishi ham Random Effects Model yordamida aniqlangan (7-model). Agar minimal nafaqa miqdori 10 foizga ohsa kambag'allik darajasi 2.14 foizga kamayishi aniqlangan va mazkur natija bir foizlik darajada statistik ahamiyatga ega. O'rtacha nafaqa miqdorining 10 foizga oshishi esa kambag'allik darajasini 0.898 foizga kamayishiga hissa qo'shishi Random Effects Modeli yordamida aniqlangan va mazkur natija ham statistik jihatdan bir foizlik darajada ahamiyatga ega (6-model).

Hausman testi natijalari²⁶

Model	1-model	2-model	3-model	4-model	5-model	6-model	7-model
Prob>chi2	0.7571	0.1065	0.5375	0.7137	0.0385	0.9958	0.7890
Xulosa	RE	RE	RE	RE	FE	RE	RE

7-jadvalda Hausman testi natijalari berilgan. Hausman testi tahlili Fixed Effects Model va Random Effects Model orasida statistik jihatdan to'g'ri modelni aniqlashga yordam beradi. Agar Hausman testida ehtimollik darajasi (prob>chi2) 0.05 dan kam bo'lsa Fixed Effects Model tanlanadi, 0.05 dan yuqori bo'ladigan bo'lsa Random Effects Model tanlanadi. 7-jadvaldan ko'rish mumkinki, faqatgina 5-modelda Fixed Effects Model ishlatilgan, qolgan barcha modellarda esa Random Effects Modeli qo'llanilgan.

²⁵ Muallif tomonidan hisoblangan natijalar.

²⁶ Muallif tomonidan hisoblangan natijalar.

Tavsifiy statistika²⁷

Variable	Obs	Mean	Std. Dev.	Min	Max
Kambag'allik darajasi	23	18.216	6.21	11	27.5
YaIM	23	6.288	1.828	1.996	9.473
Soliqlar	23	19.457	4.304	11.697	28.5
Kichik biznes ulushi	23	51.087	11.798	31	66.8

O'zbekistonda kambag'allik darajasi bo'yicha vaziyatni tahlil qilish uchun vaqtli qatorlar tahlilidan foydalanildi, buning uchun Vector Autoregressive (VAR) Model yaratildi. VAR modelini tuzishda bog'liq o'zgaruvchi sifatida kambag'allik darajasi bo'ldi (%), mustaqil o'zgaruvchi sifatida esa soliq tushumlarining yalpi ichki mahsulotdagi ulushi (%), yalpi ichki mahsulotning o'sish sur'ati (%), kichik biznesning yalpi ichki mahsulotdagi ulushi (%) ishlatildi.

Statsionarlik testlari natijalari²⁸

	DF			PP			KPSS	
	non constant	constant	trend	non constant	constant	trend	trend	non trend
Kambag'allik darajasi	-1.96 **	-0.56	-1.19	-0.61	-0.80	-7.36	0.30 ***	2.21 ***
D. Kambag'allik darajasi	-3.52 ***	-4.72 ***	-5.20 ***	-14.85 ***	-18.60 ***	-15.95 ***	0.201 **	0.331 *
YaIM	0.48	-2.83 *	-2.79	-0.17	-10.42 *	-9.73	0.336 ***	0.34 *
D.YaIM	-7.36 ***	-7.21 ***	-7.20 ***	-29.77 ***	-29.93 ***	-29.11 ***	0.03	0.09
Soliqlar	-1.71 *	-2.31	-1.5	-0.71	-4.34	-8.02	0.201 **	1.75 ***
D.Soliqlar	-3.36 ***	-3.34 **	-3.39 *	-13.12 ***	-13.80 **	-14.91 *	0.063	0.301
Kichik biznes	0.89	-1.89	0.24	0.24	-2.72	0.07	0.48 ***	1.71 ***
D.Kichik biznes	-2.72 ***	-2.7 *	-3.28 *	-10.93 **	-11.84 *	-14.99 *	0.12 **	0.429 **

Kuzatuv davri 2000-yildan boshlab 2022-yilgacha bo'lgan davrni (23 yilni) qamrab oldi. Foydalanilgan ma'lumotlarning tavsifiy statistikasi 8-jadvalda berilgan.

Model yaratishdan avval barcha o'zgaruvchilar statsionarlikka Dickey–Fuller (DF), Phillips–Perron (PP) hamda Kwiatkowski–Phillips–Schmidt–Shin (KPSS) testlari yordamida tekshirildi. Statsionarlik testlari natijalari 9-jadvalda berilgan.

²⁷ Muallif tomonidan hisoblangan natijalar.

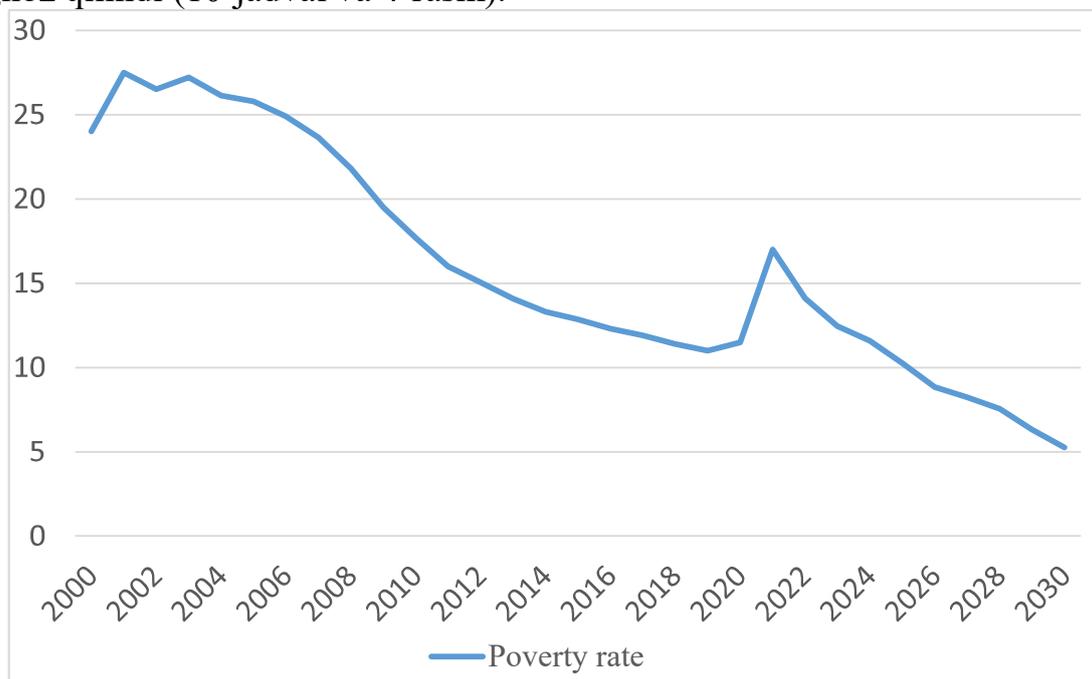
²⁸ Muallif tomonidan hisoblangan natijalar.

Natijalardan ko‘rinib turibdiki, barcha o‘zgaruvchilar birinchi integratsiya darajasida statsionar (I 1). Shu sababli VAR modeli tuzilganda barcha o‘zgaruvchilarning birinchi farqi ishlatildi.

10-jadval
O‘zbekistonda kambag‘allik darajasining prognoz qiymatlari²⁹

Yil	Kambag‘allik darajasi (Prognoz)
2023	12,45
2024	11,59
2025	10,25
2026	8,84
2027	8,23
2028	7,55
2029	6,32
2030	5,26

VAR modelini tuzishda barcha o‘zgaruvchilarning ikkinchi laglari ishlatildi, buning sababi esa ikkinchi lag avtoregressiya lag testida optimal lag deb ko‘rsatilgani bo‘ldi. Barcha o‘zgaruvchilarning birinchi farqi hamda ikkinchi lagi ishlatilganligi sababli modelda kuzatuvlar soni 19 ta bo‘ldi. VAR modeli tuzilgandan keyin ushbu model asosida kambag‘allik darajasi 2030-yilgacha prognoz qilindi (10-jadval va 4-rasm).



4-rasm. O‘zbekistonda kambag‘allik darajasining prognoz qiymatlari dinamikasi³⁰

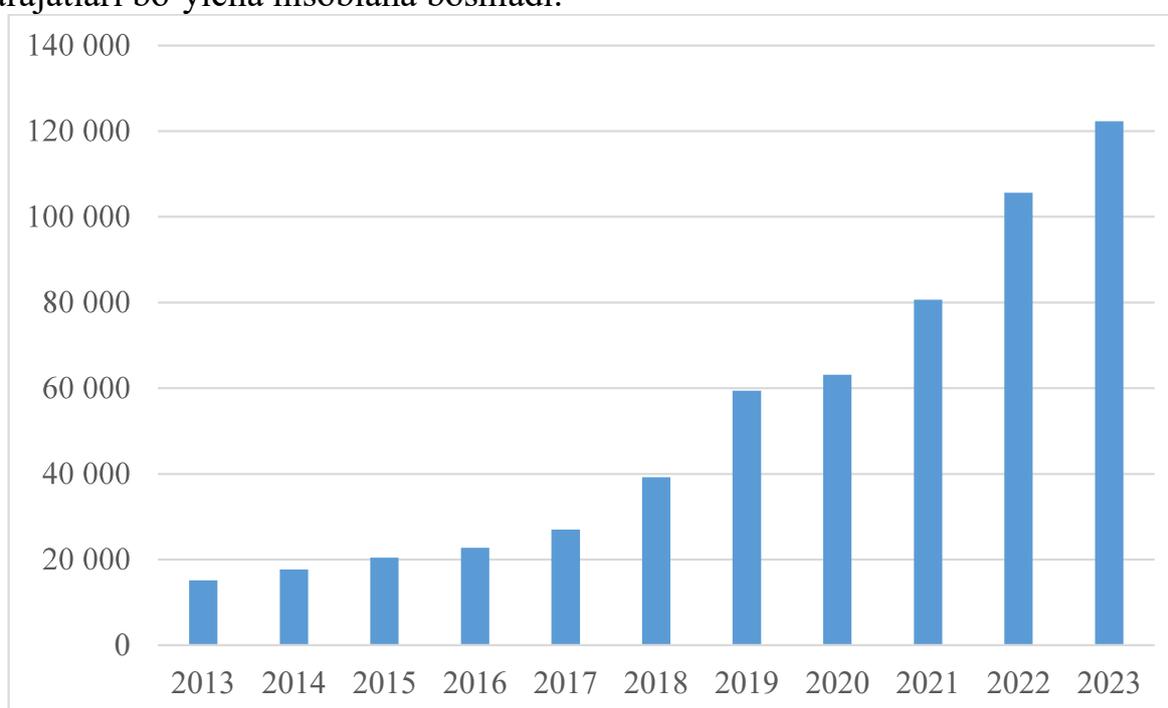
Prognoz natijalaridan ko‘rinib turibdiki, 2030-yilgacha kambag‘allik darajasi bosqichma-bosqich pasayib, 2030-yilda 5,26 foizni tashkil etadi.

²⁹ Muallif tomonidan hisoblangan natijalar.

³⁰ Muallif tomonidan hisoblangan natijalar.

Dissertatsiya ishining “**Fiskal siyosat va raqamlashtirish orqali O‘zbekistonda kambag‘allikni qisqartirish istiqbollari**” deb nomlangan uchinchi bobi O‘zbekistonda kambag‘allikni bartaraf etish bo‘yicha ko‘rilayotgan chora-tadbirlar tahliliga bag‘ishlangan. Shuningdek, raqamli texnologiyalar, shu jumladan, sun‘iy intellekt yordamida kambag‘allikni o‘lchash bo‘yicha olib borilgan zamonaviy tadqiqotlar ham o‘rganilib, sun‘iy intellektdan foydalanish istiqbollari tadqiq qilingan.

Bugungi kunda O‘zbekistonda kambag‘allik muammosiga katta e‘tibor qaratilmoqda. Mamlakat Prezidentining 2020-yildagi ma‘ruzasidan so‘ng ushbu muammoni hal etish bo‘yicha salmoqli ishlar amalga oshirilmoqda. Kambag‘al aholi qatlamini davlat siyosati bilan qo‘llab-quvvatlagan taqdirdagina katta yutuqlarga erishish mumkin. Kambag‘allik sohasida olib borilayotgan muhim ishlardan biri bu kambag‘allik o‘lchovidagi o‘zgarish bo‘ldi, u 2021-yildan boshlab eng kam iste‘mol xarajatlari bo‘yicha hisoblana boshladi.



5-rasm. Ijtimoiy soha va aholini ijtimoiy qo‘llab-quvvatlash xarajatlari dinamikasi (mlrd. so‘m)³¹

O‘zbekiston Respublikasi Prezidentining 2021-yil 3-fevraldagi PF-6155³² hamda 2021-yil 11-avgustdagi PF-6277³³-sonli farmonlari ijrosini ta‘minlash maqsadida Vazirlar Mahkamasining 2021-yil 21-avgustda “Minimal iste‘mol xarajatlari qiymatini hisoblash tartibini amaliyotga joriy etish to‘g‘risida”gi 544-sonli qarori qabul qilingan. Mazkur qarorga binoan minimal iste‘mol xarajatlari

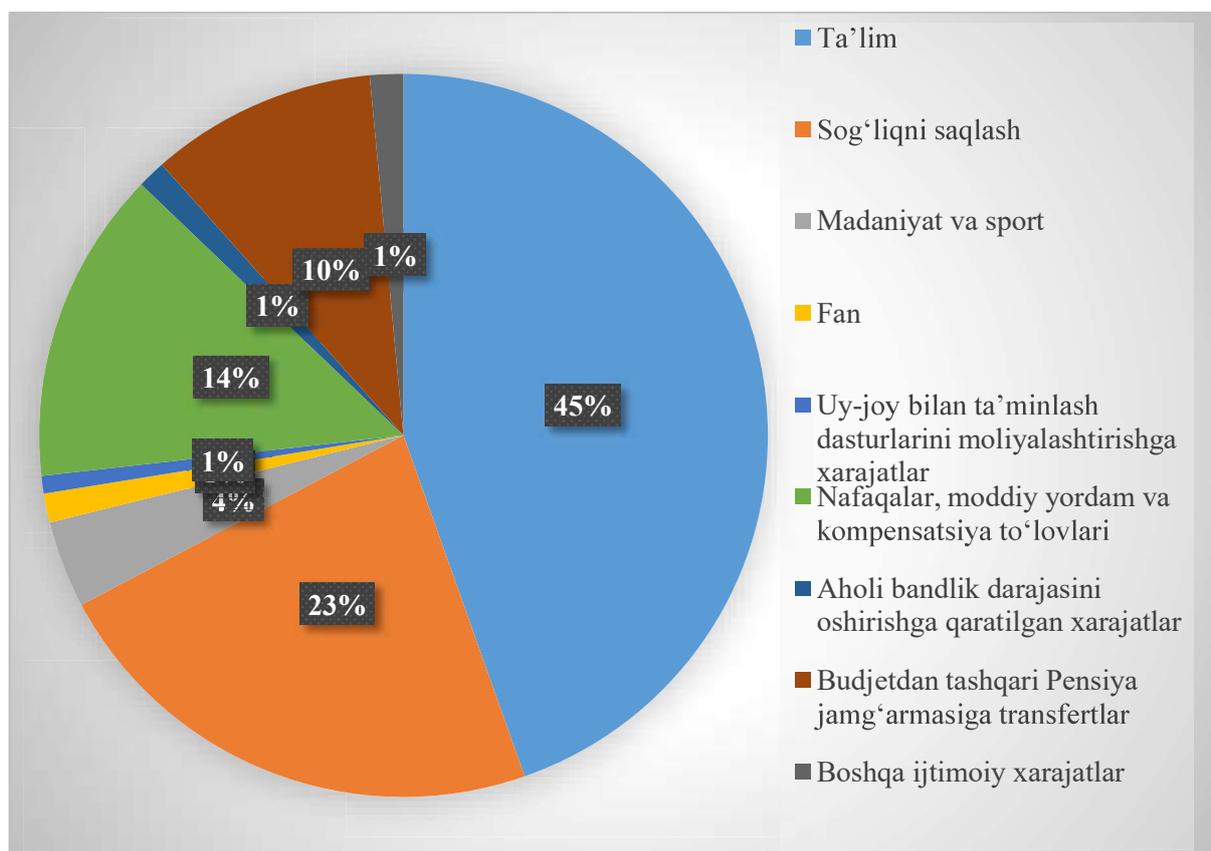
³¹ O‘zbekiston Respublikasi Iqtisodiyot va moliya vazirligi ma‘lumotlari asosida tayyorlangan.

³² Decree of the President of the Republic of Uzbekistan «On the state program on the implementation of the Strategy of Actions on the five priority directions of the development of the Republic of Uzbekistan in 2017-2021 in the "Year of supporting youth and strengthening the health of the population", PF-6155 from February 3, 2021.

³³ O‘zbekiston Respublikasi Prezidentining 11.08.2021 yildagi PF-6277-son “Kam ta‘minlangan oilalarga moddiy yordam ko‘rsatish hamda kambag‘allik bilan kurashish ko‘lamini yanada kengaytirish chora-tadbirlari to‘g‘risida”gi Farmoni.

(MIX) O‘zbekistonda kambag‘allik chegarasiga tenglashtirildi. Shuningdek, “Ijtimoiy himoya qilish bo‘yicha yagona reyestr” axborot tizimi orqali oilani kam ta‘minlangan deb topish jarayonida qo‘llaniladigan jon boshiga oylik daromad mezoni ham MIXga tenglashtirildi. Kelgusi yil uchun O‘zbekiston Respublikasi Davlat budgetining xarajatlar qismini shakllantirishda MIX qiymatining prognoz ko‘rsatkichlarini hisobga olish zarurligi, MIX tarkibi respublika iqtisodiyotining rivojlanishi hamda aholi daromadlari va xarajatlaridagi o‘zgarishlarni hisobga olgan holda kamida har 5 yilda bir marta qayta ko‘rib chiqilishi belgilandi.

O‘zbekiston hukumati kambag‘allik muammosiga katta e‘tibor qaratib, kambag‘allikni qisqartirish bo‘yicha maxsus fiskal siyosatni amalga oshirmoqda. O‘zbekiston Respublikasi Prezidenti Sh.Mirziyoyev Oliy Majlisda so‘zlagan nutqida hukumatning maqsadi “ijtimoiy mamlakat” tamoyili asosida Yangi O‘zbekistonni barpo etish, kambag‘allikni kamaytirish, barcha odamlarga o‘z salohiyatini ro‘yobga chiqarish uchun teng imkoniyatlar yaratish, jamiyat hayoti uchun zarur shart-sharoitlar yaratish ekanini ta’kidladi³⁴. Shu sababli ijtimoiy sohada budget xarajatlari ham yildan-yilga oshib bormoqda (5-rasm). 2023-yilda ijtimoiy sohaga ajratilgan budget xarajatlarning tuzilishi 6-rasmda berilgan.



6-rasm. Ijtimoiy sohaga ajratilgan budget xarajatlarning tarkibi (2023 y.)³⁵

Bugungi kunda O‘zbekistonda kambag‘allikni qisqartirish borasida katta ishlar amalga oshirilmoqda. 11-jadvalda subsidiyalarning hududlar bo‘yicha taqsimoti, shuningdek, 2023-yildagi kambag‘allik darajasi ko‘rsatilgan. Sariq rangda

³⁴ O‘zbekiston Respublikasi Prezidenti Shavkat Mirziyoyevning 20.12.2022-yildagi Oliy Majlis va O‘zbekiston xalqiga Murojaatnomasi.

³⁵ O‘zbekiston Respublikasi Iqtisodiyot va moliya vazirligi ma’lumotlari asosida tayyorlangan.

kambag‘allik darajasi o‘rtacha bo‘lgan hududlar, yashil rangda esa kambag‘allik darajasi past bo‘lgan hududlar ajratilgan. Xorijiy tadqiqotchilar taklif qilganidek, kambag‘allik darajasi yuqori bo‘lgan hududlarni ko‘proq subsidiyalash kerak, O‘zbekistonda esa kambag‘allik darajasi yuqori bo‘lgan hududlarga nisbatan kambag‘allik darajasi past bo‘lgan ayrim hududlar ko‘proq subsidiya olishini ko‘rish mumkin.

11-jadval

Hududlarga ajratilgan subsidiyalar (2023-y.)³⁶

Hudud	Aholi soni	Kambag‘allik darajasi	Oilaviy tadbirkorlikni rivojlantirish dasturlari doirasida ajratilgan kredit		Ajratilgan subsidiyalar		Kasb-hunar va tadbirkorlikka o‘qitish, soni
			Soni	Summasi, mlrd. so‘m	Soni	Summasi, mln.so‘m	
Qoraqalpo-g‘iston	1 997 144	13,6	53 186	829,6	4 859	25 610,5	15 872
Andijon	3 321 308	11,9	47 605	876,4	7 854	56 785,0	6 400
Buxoro	2 029 898	11,8	37 164	922,0	4 487	22 355,8	11 005
Jizzax	1 480 774	14,2	33 509	560,3	4 167	20 100,0	7 172
Qashqadaryo	3 557 531	11,5	40 864	906,7	6 755	29 252,2	17 365
Sirdaryo	914 048	13,8	20 957	471,1	2 558	14 242,8	10 783
Xorazm	1 960 031	14,1	34 420	870,3	6 123	31 570,1	12 909
Farg‘ona	4 058 065	10,1	43 762	800,3	8 000	35 136,3	19 265
Toshkent sh.	2 983 127	7,9	3 156	80,6	3 899	22 033,5	6 076
Namangan	3 053 457	10,4	10 984	283,2	5 582	18 517,8	16 310
Navoiy	1 056 462	7,6	22 222	581,0	2 285	10 258,1	7 142
Samarqand	4 201 937	10,5	50 511	991,5	6 695	30 114,6	27 794
Surxon-daryo	2 804 436	10,6	41 407	890,3	6 713	25 464,9	14 978
Toshkent vil.	3 062 692	10,2	32 274	801,0	2732	14 351,1	7417

Raqamli texnologiyalar hayotning barcha jabhalariga jadal kirib kelmoqda. Hozirgi kunda dunyo aholisining deyarli uchdan ikki qismi internetga³⁷ hamda 60,42 foizi smartfonlarga ega³⁸. O‘zbekistonda 30,1 million kishi yoki aholining 83 foizi internetga ega. Bundan tashqari, O‘zbekistonda 33,81 million uyali aloqa egalari mavjud bo‘lib, bu mamlakat aholisining 95,5 foizini tashkil qiladi³⁹. Mazkur

³⁶ O‘zbekiston Respublikasi Kambag‘allikni qisqartirish va bandlik vazirligi ma’lumotlari asosida tayyorlangan.

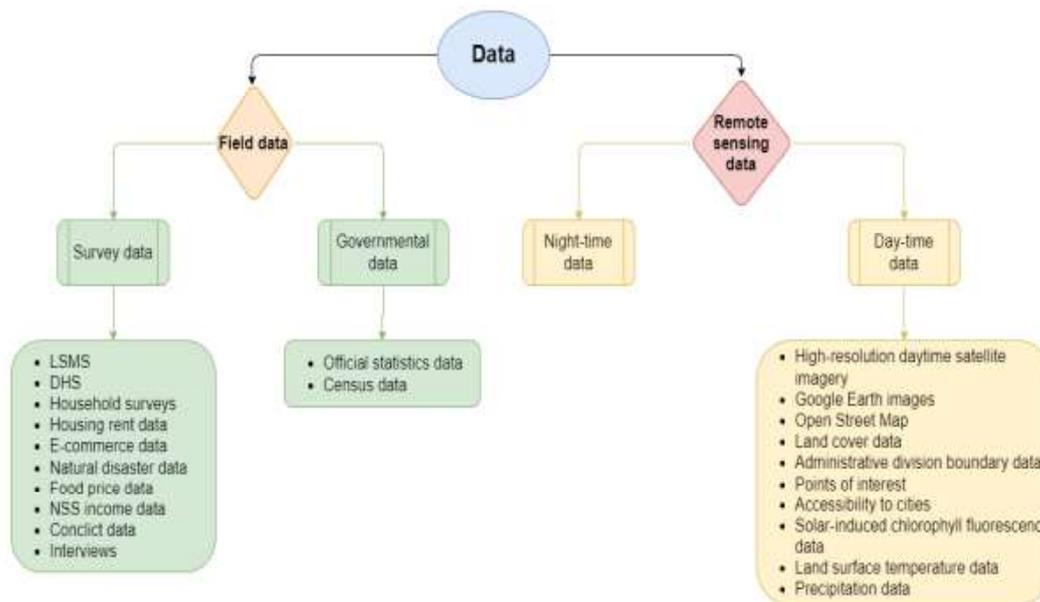
³⁷ <https://www.statista.com/topics/1145/internet-usage-worldwide/>

³⁸ <https://prioridata.com/data/smartphone-stats/>

³⁹ <https://datareportal.com/reports/digital-2024-uzbekistan#:~:text=Uzbekistan%20was%20home%20to%20208.70,percent%20of%20the%20total%20population.>

ma'lumotlar raqamli texnologiyalar hayotimizning ajralmas qismiga aylanganidan dalolat beradi va ulardan kambag'allikni kamaytirish maqsadlarida ham foydalanish mumkinligini ifodalaydi.

Raqamli texnologiyalar, shu jumladan, sun'iy intellekt algoritmlarining ham kambag'allikni hisoblash va qisqartirishda o'rni katta. Sun'iy intellekt mashhurligining asosiy sababi har xil turdagi ma'lumotlar to'plami bilan ishlash, ularni kambag'allikni hisoblash uchun birlashtirish imkoniyatidir. U tahlil qilinayotgan hududdagi vaziyat haqida nostandart, ammo yaxlit ko'rinish berishi mumkin.



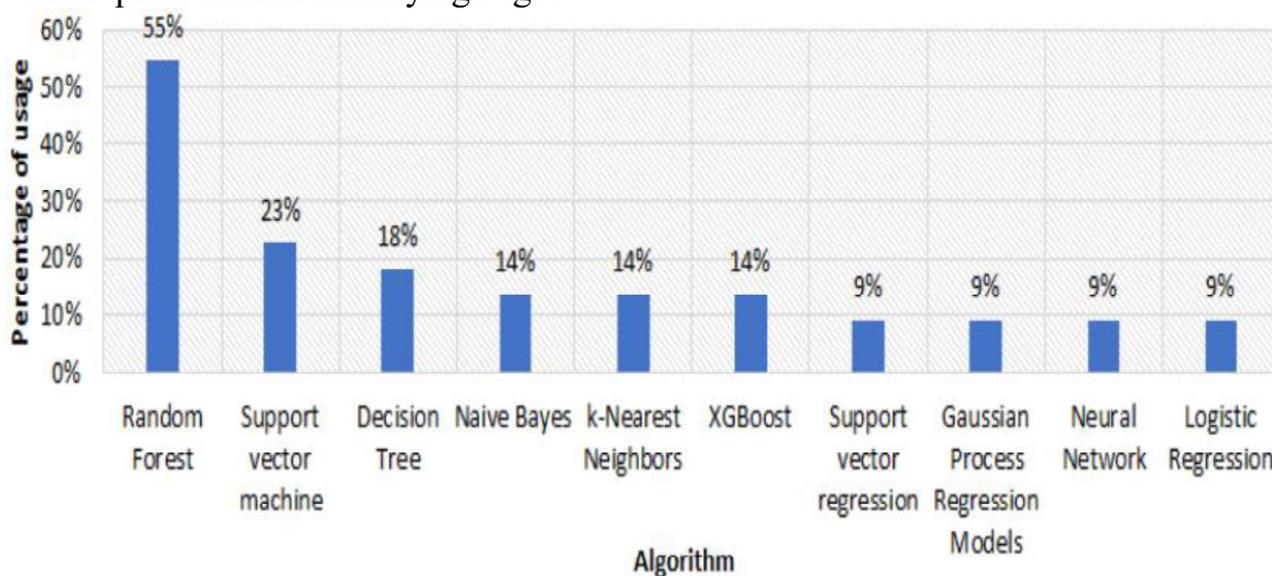
7-rasm. Kambag'allikni hisoblashda sun'iy intellekt algoritmlari tomonidan ishlatiladigan ma'lumotlarning guruhlanishi⁴⁰

Umuman olganda, sun'iy intellekt ishlatadigan ma'lumotlarning qayerdan to'planganiga qarab, ma'lumotlar to'plamini shartli ravishda ikkita katta guruhga bo'lish mumkin: field data va remote sensing data (7-rasm). Birinchi guruh "Field data" deb ataladi va so'rovlar, intervyular o'tkazish yoki hokimiyat va turli platformalardan statistik ma'lumotlarni yig'ish orqali to'plangan barcha turdagi ma'lumotlarni o'z ichiga oladi. Ikkinchi guruh "Remote sensing data" deb ataladi va u sun'iy yo'ldoshlar yordamida to'plangan barcha ma'lumotlarni, shu jumladan, Google Earth rasmlari, yog'ingarchilik ma'lumotlari, quruqlik qoplami to'g'risidagi ma'lumotlar, tungi vaqtdagi yorug'lik ma'lumotlari va boshqalarni o'z ichiga oladi.

8-rasmda kambag'allikni hisoblashda dunyoda eng ko'p qo'llanilgan sun'iy intellekt algoritmlarining birinchi o'ntaligi berilgan. Olingan natijalardan Random Forest algoritmi eng ko'p ishlatilgan algoritm ekanligi aniqlandi, ya'ni olib borilgan tadqiqotlarning 55 foizi mazkur algoritmdan foydalangan. Xulosa qilib aytganda, hukumat O'zbekistonda kambag'allik borligini rasman tan olgani va uni aniqlash hamda bartaraf etish bo'yicha turli dasturlarni ishga tushirganiga ko'p vaqt

⁴⁰ Usmanova, Aziza, et al. "Utilities of Artificial Intelligence in Poverty Prediction: A Review." Sustainability 14.21 (2022): 14238.

bo‘lmagan bo‘lsa ham katta ishlar amalga oshirilganini ko‘rish mumkin. Misol tariqasida, O‘zbekiston uchun ko‘p o‘lchamli kambag‘allik indeksi shu yili ishlab chiqildi, ammo boshqa davlatlar uni o‘n yildan ortiq vaqt davomida o‘lchab kelmoqda. Bundan tashqari, kambag‘allikni hisoblash vositalari juda ko‘p bo‘lib, ular kambag‘allikni katta xarajatlarsiz onlayn va real vaqt rejimida kuzatish imkonini beradi. Shu bois O‘zbekistonda kambag‘allikni hisoblashda yangi texnologiyalar va usullarini joriy etish va ular asosida respublikaning kambag‘allik ko‘rsatkichlarini ishlab chiqish va ularni sun‘iy intellekt algoritmlari yordamida tahlil qilish muhim ahamiyatga ega.



8-rasm. Kambag‘allikni hisoblashda eng ko‘p foydalanilgan sun‘iy intellekt algoritmlari⁴¹

XULOSA

Dissertatsiya ishi fiskal siyosatning kambag‘allik darajasiga ta‘sirini aniqlashga qaratilgan. Amalga oshirilgan tadqiqotdan quyidagi xulosalarni chiqarish mumkin:

1. O‘zbekistonda turli davrlarda kambag‘allikni tadqiq qilishda turlicha yondashuvlar qo‘llanilgan. Xususan, 1994–1998-yillarda bozor iqtisodiyotiga o‘tish davrida ijtimoiy himoya o‘rganilgan, 2001–2009-yillarda uy xo‘jaliklari va ularning daromadlari o‘rganilgan. Lekin, 2009-yildan keyin 2020-yilgacha bu mavzuda boshqa tadqiqotlar o‘tkazilmagan. 2020-yilda Prezident O‘zbekistonda kambag‘allik borligini rasman e‘lon qilgandan so‘ng bir qancha tadqiqotlar olib borildi. Shuning uchun bu davr: “Kambag‘allikni o‘lchash va kambag‘allikni kamaytirish strategiyalari” deb nomlandi.

2. O‘zbekiston hududlarini quyidagi uchta chegaradan kelib chiqqan holda uch toifaga bo‘lish mumkin:

Kambag‘allik darajasi yuqori bo‘lgan hududlar – ushbu hududlar guruhi uchun kambag‘allik chegarasi 19,3 %dan 34,34 %gacha;

⁴¹ Usmanova, Aziza, et al. "Utilities of Artificial Intelligence in Poverty Prediction: A Review." Sustainability 14.21 (2022): 14238.

Kambag'allik darajasi o'rtacha bo'lgan hududlar – ushbu hududlar guruhi uchun kambag'allik chegarasi 11,18 %dan 19,22 %gacha;

Kambag'allik darajasi past bo'lgan hududlar – ushbu hududlar guruhi uchun kambag'allik chegarasi 0,4 %dan 10,9 %gacha.

3. 2020-yilda COVID-19 pandemiyasiga qadar O'zbekistonda hech bir hudud kambag'allik darajasi yuqori guruhda bo'lmagan. Biroq 2021-yildan boshlab pandemiya hamda kambag'allik hisobidagi o'zgarishlar tufayli bir qancha hududlar kambag'allik darajasi yuqori bo'lgan hududlar toifasiga kirgan.

4. Eng kam ish haqi kambag'allik darajasiga salbiy va statistik jihatdan ahamiyatli ta'sir ko'rsatadi. Tuzilgan REM modeli o'rtacha ish haqining 10 %ga oshishi kambag'allik darajasini 0,434 %ga kamaytirishi mumkinligini ko'rsatadi.

5. Bandlik darajasi kambag'allik darajasini kamaytiradi va bu statistik jihatdan ahamiyatli. Agar bandlik 1 %ga oshsa, kambag'allik darajasi 0,236 %ga kamayadi. Ushbu natijadan kelib chiqib, aholi bandligini yanada kengaytirish choralari ko'rish zarur degan xulosaga kelish mumkin.

6. Kichik biznes ulushining 1 %ga oshishi kambag'allik darajasini 0,261 %ga kamaytiradi va bu 1 foizlik darajada statistik ahamiyatga ega. Bundan xulosa qilish mumkinki, davlat kichik biznesni qo'llab-quvvatlashni yanada takomillashtirishi kerak.

7. Pensiya tizimining elementlaridan pensiya oluvchilar soni kambag'allik darajasiga eng yuqori ta'sir ko'rsatadi. Pensiya oluvchilar soni 10 %ga oshsa, kambag'allik darajasi 2,16 %ga kamayadi. O'rtacha pensiya o'rganiladigan bo'lsa, agar o'rtacha pensiya 10 %ga oshsa, kambag'allik darajasi 0.898 %ga kamayadi. Minimal pensiya miqdorining 10 %ga oshishi, kambag'allik darajasini 2.14 %ga kamaytiradi va bu natija 1 % darajasida statistik ahamiyatga ega.

8. 2030-yilgacha O'zbekistonda kambag'allik darajasi pasayib, 2030-yilda 5,26 %ni tashkil etishi prognoz qilinmoqda.

9. Sun'iy intellekt yordamida kambag'allikni hisoblash uchun ishlatiladigan ma'lumotlarni ikki guruhga bo'lish mumkin: field data va remote sensing data.

**SCIENTIFIC COUNCIL AWARDING OF THE
SCIENTIFIC DEGREES №DSc. 22/29.12.2023.I.175.01 AT THE
TASHKENT INTERNATIONAL UNIVERSITY**

TASHKENT STATE UNIVERSITY OF ECONOMICS

USMANOVA AZIZA ALISHEROVNA

**PROSPECTS OF USING FISCAL INSTRUMENTS FOR POVERTY
REDUCTION IN UZBEKISTAN**

08.00.07 – Finance, money circulation and credit

ABSTRACT
of the dissertation of Doctor of Philosophy (PhD) in Economics

Tashkent city-2024 year

The topic of the Doctor of Philosophy (PhD) dissertation in economic sciences is registered in the Higher Attestation Commission with the number B2022.2.PhD/Iqt2214

The dissertation was completed at Tashkent State University of Economics.

The abstract of the dissertation is posted in three languages (Uzbek, English, Russian (resume)) on the website of the Scientific Council (www.tiu.uz) and on the «Ziyonet» information and educational portal (www.ziyonet.uz).

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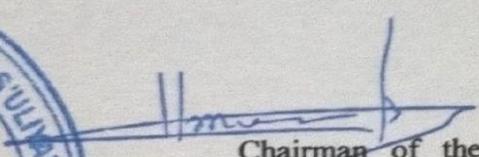
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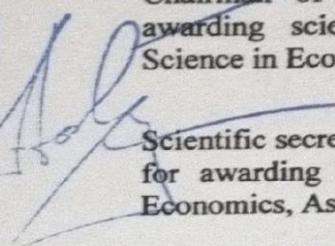
The Defense of the dissertation will take place on « 07 » 12 2024 at 10⁰⁰ at the meeting of the Scientific Council DSc. 22/29.12.2023.I.175.01 awarding scientific degrees at Tashkent International University Address: 100114, 7 Small roundabout Street, Tashkent. Phone: (99895) 131-55-55; fax: (99895) 131-55-55; e-mail: info@tiu.uz

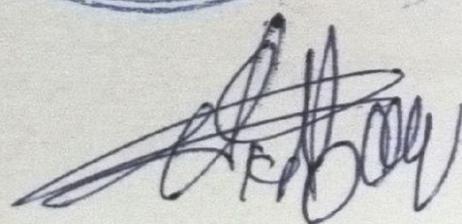
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INTRODUCTION (abstract of the thesis of the Doctor of Philosophy (PhD))

Topicality and necessity of the thesis. Poverty is one of the global problems in the world. According to the World Bank, 691 million people, which contains 8.6% of the world population, live in extreme poverty⁴². The United Nations projected that 575 million people will be in extreme poverty in 2030⁴³. In order to combat with poverty big efforts are invested around the world. In particular, the United Nations in its Sustainable Development Goals determined as the first Goal eradicating poverty in all its forms everywhere⁴⁴. It should be noted that combatting with the poverty requires a complex measure, including economic, financial and social aspects. Among all these aspects fiscal policy of the government plays a crucial role in poverty eradication. Governments use their fiscal policy to ensure strong and sustainable economic growth of the country and to reduce poverty⁴⁵. This highlights the importance of improving the use of fiscal instruments in poverty alleviation.

A numerous research has been conducted worldwide aimed at poverty reduction via fiscal instruments. The effectiveness of poverty combatting depends on the actions taken by the government. Based on the Agenda for Sustainable Development of the United Nations, the countries are developing their own national programmes of sustainable development. The Republic of China can serve as a successful example of fighting the poverty. Within the forty years over 800 million were rescued from the poverty, which is the largest number in the world history. The policy-against-poverty was implemented in China based on the five key areas, namely local governance, human capital, industrial development, culture, and ecological environment. Also, fiscal policy played an important role in supporting the transition⁴⁶. Identification of the nature of poverty and the factors affecting it, as well as improving and adjusting the fiscal policy of the country based on this identification is the main priority in poverty reduction.

In Uzbekistan, the poverty is currently considered as the main obstacle of sustainable development and it is on the continuous focus of the government. The President of the Republic of Uzbekistan Sh. Mirziyoyev in his speech officially admitted the existence of the poverty in the country as well as defined the poverty reduction as the following: “Poverty reduction means the awakening of entrepreneurial spirit in the population, the full realization of the inner strength and potential of man, the implementation of a comprehensive economic and social policy to create new jobs”⁴⁷. Based on this definition, a significant attention is paid to the fiscal policy as the main direction of poverty reduction. Also, the governmental program of the Republic of Uzbekistan “From Poverty to Prosperity” defines

⁴² <https://blogs.worldbank.org/en/opendata/poverty-back-pre-covid-levels-globally-not-low-income-countries>

⁴³ <https://www.un.org/en/global-issues/ending-poverty>

⁴⁴ UN General Assembly (UNGA). A/RES/70/1 Transforming our world: the 2030 Agenda for Sustainable Development. Resolut 25, 1–35 (2015)

⁴⁵ <https://www.imf.org/en/Publications/fandd/issues/Series/Back-to-Basics/Fiscal-Policy>

⁴⁶ <https://www.worldbank.org/en/news/press-release/2022/04/01/lifting-800-million-people-out-of-poverty-new-report-looks-at-lessons-from-china-s-experience>

⁴⁷ Address of the President of the Republic of Uzbekistan Shavkat Mirziyoyev to the Oliy Majlis on 29.12.2020

“increasing the level of implementation of measures regarding a new approach and accumulated national experience in improving the living conditions of the population in the regions, developing entrepreneurship, reducing poverty and achieving the effectiveness of social support programs to a higher level” as one of the important directions⁴⁸. This, in its turn, requires economic growth, fiscal policy, support of business and employment, as well as social benefits for poverty reduction. Also, it is desirable to carry out scientific research aimed at studying the impact of fiscal instruments and financial policy in reducing poverty in our country.

This research is aimed at supporting the realization of the objectives determined in Decree of the President of the Republic of Uzbekistan dated January 28, 2022 PF-60 "On the Development Strategy of New Uzbekistan for 2022-2026", Decree of the President of the Republic of Uzbekistan PF-143 dated September 23, 2024 "On taking the measures to reduce poverty and increase the welfare of the population to a new level", Decree of the President of the Republic of Uzbekistan on October 4, 2024 PQ-347 “On measures to improve the governmental policy and increase efficiency in the field of poverty reduction and employment” as well as in other normative legal documents in this field.

Relevant research priority areas of science and developing technology of the Republic. This study was carried out within the framework of priority line I. "Spiritual-ethical and cultural development of a democratic and legal society, formation of an innovative economy" through the Republic's scientific and technological development.

Problem development status. It is important to investigate the phenomenon of poverty as well as its reduction in Uzbekistan. Therefore, in this dissertation the research of prominent economists in the world as well as in Uzbekistan is studied, and analyses are conducted based on their notion.

The theoretical foundation of the poverty is developed by Rowntree who defined the poverty line as the amount of money needed to meet the minimum physical need of the human. Townsend, in his turn, defined poverty as the lack of resources to follow the living standards traditional to their society⁴⁹. Deaton, Sen, Yunus, Banerjee, Duflo, and Kremer were awarded the Nobel prize in the field of economics due to their contribution to understanding poverty. Also, the works of Alkire and Foster were studied in this dissertation as the developers of the multidimensional poverty index⁵⁰.

Furthermore, the research conducted by Lustig, Enami, Taqdiri, Destek, Sinha, Sarkodie, Anderson, Tanjung, Song, Jouini, de Mendonça, Ferreira, Cabrera Baca sheds light into the impact of fiscal policy on the poverty rate⁵¹. Meanwhile, the

⁴⁸ Decree of the President of the Republic of Uzbekistan PF-143, from September 23, 2024 “On taking the measures to reduce poverty and increase the welfare of the population to a new level”

⁴⁹ Veit-Wilson, J. (1986). Paradigms of Poverty: A Rehabilitation of B.S. Rowntree. *Journal of Social Policy*, 15(1), 69-99. doi:10.1017/S0047279400023114

⁵⁰ Alkire, Sabina, et al. “Multidimensional poverty index 2011: brief methodological note.” (2011).

⁵¹ Lustig, Nora, ed. *Commitment to equity handbook: Estimating the impact of fiscal policy on inequality and poverty*. Brookings Institution Press, 2023; Enami, Ali, Nora Lustig, and Alireza Taqdiri. "Fiscal policy, inequality, and poverty in Iran: assessing the impact and effectiveness of taxes and transfers." *Middle East development journal* 11.1 (2019): 49-74; Destek, M.A.; Sinha, A.; Sarkodie, S.A. The relationship between financial development and income inequality in Turkey. *J. Econ. Struct.* 2020, 9, 11.; Anderson, Edward, et al. "Does government spending affect income

research conducted by Razmi, Garza-Rodriguez, Balasubramanian, Škare analyzed the impact of economic growth on the poverty rate⁵².

In Uzbekistan, Yoqubova, Ablyakova, Umurzakov, Kulmatov, Yuldoshev, Erkinova also investigated the issues of poverty measurement⁵³, whereas Zokirova, Khasanov, Akhmadjanov, Toshmurotov, Alibekova, Mirzayev, Mukhitdinov analyzed the income of the households in Uzbekistan⁵⁴. Moreover, the research on social support was conducted by Arabov, Nasimov, Rakhmonov, Kurbanov, Baratov.⁵⁵

Based on the governmental programmes, poverty is one of the actual topics in our country that requires complex measures. It is important to distinguish factors affecting poverty and find the ways of its alleviation. As can be seen from the conducted research, studying of poverty started with studying its economic aspects, but the effect of fiscal policy on poverty is not investigated in case of Uzbekistan. This research is being conducted to fill this gap.

poverty? A meta-regression analysis." *World Development* 103 (2018): 60-71.; Tanjung, Ahmad Albar, et al. "The impact of monetary and fiscal policy on poverty in Indonesia." (2019).; Song, Junxiu, et al. "Fiscal decentralization and economic growth revisited: an empirical analysis of poverty governance." *Environmental Science and Pollution Research* 29.19 (2022): 28020-28030; Jouini, Nizar, et al. "Fiscal policy, income redistribution, and poverty reduction: Evidence from Tunisia." *Review of Income and Wealth* 64 (2018): S225-S248; de Mendonça, Helder Ferreira, and Adriana Cabrera Baca. "Fiscal opacity and reduction of income inequality through taxation: Effects on economic growth." *The Quarterly Review of Economics and Finance* 83 (2022): 69-82.

⁵² Razmi, Mohammad Javad, Seyed Mohammad Javad Razmi, and Seyed Saeed Malek Sadati. "The role of institutional conditions in the impact of economic growth on poverty." *International Journal of Business and Economic Sciences Applied Research* 14 (2021): 78-85; Garza-Rodriguez, Jorge. "Poverty and economic growth in Mexico." *Social Sciences* 7.10 (2018): 183.; Balasubramanian, Pooja, Francesco Burchi, and Daniele Malerba. "Does economic growth reduce multidimensional poverty? Evidence from low-and middle-income countries." *World Development* 161 (2023): 106119.; Škare, Marinko, and Romina Pržiklas Družeta. "Poverty and economic growth: a review." *Technological and Economic development of Economy* 22.1 (2016): 156-175

⁵³ Yoqubova S.Yu. *Bozor munosabatlariga o'tish sharoitida aholini ijtimoiy himoyalash (O'zbekiston Respublikasi misolida)*. Toshkent, 1994, 142-bet; Абякова Ш.А. *Совершенствование системы социальной защиты населения Республики Узбекистан в условиях перехода к рыночным отношениям*. Ташкент, 1995, 285-стр.; Умурзаков Б.Х. *Совершенствование системы социальной защиты нетрудоспособных слоев населения в условиях формирования рыночной экономики*. Ташкент, 1995; Kulmatov Ch.A. *Bozor iqtisodiyotiga o'tish davrida qishloq aholisining turmush darajasini yaxshilash (Surxondaryo viloyati misolida)*. Toshkent, 1994, 150-bet; Yuldoshev X.A. *Bozor munosabatlariga o'tish sharoitida qishloq aholisining sotsial-iqtisodiy manfaatlarini himoyalash asoslari (Samarqand viloyati misolida)*. Toshkent, 1995; Эркинова Ф. *Формирование механизма управления социальной защиты населения в условиях перехода к рыночной экономике*. Ташкент, 1998

⁵⁴ Zokirova N. *Ijtimoiy yo'naltirilgan bozor iqtisodiyoti sharoitida aholini sotsial himoya qilish tizimini takomillashirish (O'zbekiston Respublikasi oilalari misolida)*. Toshkent, 2001; Xasanov R. *Shakllanayotgan bozor munosabatlari tizimida daromadlar va ularning tabaqalanishi*. Toshkent 2005.; Akhmadjanov X. *O'zbekiston xonadonlari moliya resurslarini shakllanishi va ishlatilishi*. Toshkent 2006.; Toshmurotov A.A. *Iqtisodiyotni erkinlashtirish sharoitida aholini oziq-ovqat mahsulotlari bilan ta'minlash*. Toshkent 2006, 140-bet; Alibekova S. "Формирование и факторы роста уровня жизни населения Узбекистана". Ташкент 2003.; Мирзаев Ш. *Пути усиления адресности социальной защиты населения в условиях переходной экономики (на материалах Узбекистана)*. Ташкент 2006; Muxitdinov X. *Aholi turmush darajasini oshirish va hududlar ijtimoiy rivojlanish jarayonlarini modellashtirish*. Toshkent 2009.

⁵⁵ Arabov N.U. *O'zbekiston Respublikasida mehnat bozori infratuzilmasini rivojlantirish samaradorligini oshirish. Monografiya*. – T.: "Fan va texnologiyalar" nashriyoti, 2017y. -336 b.; Nasimov D.A. *Iqtisodiyotning innovatsion rivojlanishi sharoitida ish bilan bandlik egiluvchanligini ta'minlash mexanizmlarini takomillashtirish. Monografiya*. - T.: "Fan va texnologiya", 2018. -260b.; Rakhmonov D.A. *Kambag'allik – makroiqtisodiy barqarorlikning dolzarb muammosi / "Yangi O'zbekiston iqtisodiyotining makroiqtisodiy barqarorligini ta'minlash: muammolar, tahlillar va natijalar"* nomli onlayn ilmiy masofaviy konferentsiyasi tezislari to'plami, aprel 30, 2020, 14-33 b.; Kurbonov S. P. *Aholining unumli va mahsuldor bandligini oshirish asosida kambag'allikni qisqartirish. Iqtisodiyot fanlari bo'yicha falsafa doktorini (PhD) olish uchun yozilgan dissertatsiyasi avtoreferati*. T: 2022, 68-bet; Baratov S.N. *O'zbekistonda kambag'allikni qisqartirishda budjet siyosati yo'nalishlaridan foydalanish ustuvorliklari. Iqtisodiyot fanlari bo'yicha falsafa doktorini (PhD) olish uchun yozilgan dissertatsiyasi avtoreferati*. T: 2024, 57-bet

Relevance of the dissertation research with the plans of the scientific-research works of the higher educational or scientific research institutions where the dissertation has been conducted. This research is conducted within the framework of the fundamental project number ИЛ-21101893 titled "Development of scientific approaches aimed at reducing poverty and improving the well-being of the population" conducted by the "Scientific bases and problems of the development of the economy of Uzbekistan" research center at the Tashkent State University of Economics.

The aim of the research work. This work aims at investigating poverty in Uzbekistan and its regions, analyzing the effects of fiscal policy and economic indicators on the poverty rate and suggesting the ways of poverty reduction.

The tasks of the research work. Based on the aim of the research, the followings are the tasks of the research:

revealing the scientific-theoretical basis of the influence of fiscal policy on the poverty rate in Uzbekistan;

classifying the regions of Uzbekistan based on the level of poverty using the econometric methods;

constructing econometric models on data collected to analyze the impact of fiscal and economic indicators on the poverty rate;

determining the forecasting values of the poverty rate in Uzbekistan until 2030; proposing suggestions on the use of digital technologies in poverty prediction and reduction;

proposing suggestions on the fiscal measures to reduce the poverty rate in Uzbekistan.

The object of the research work. As the object of the research, the directions of the fiscal policy in poverty reduction in Uzbekistan were selected.

The subject of the research work. The subject of the research is the economic relations that arise in the process of poverty reduction via fiscal policy in Uzbekistan.

Methods of the research. In the dissertation, the following econometric methods were applied: correlation analysis, cluster analysis, panel data analysis, principal component analysis (PCA), and vector autoregression analysis (VAR).

Scientific novelty of the research work is as follows:

the methodology of classification of Uzbekistan's regions into three categories, namely, regions with the high poverty rate [19.3-34.4], regions with the medium poverty rate [11.1-19.22], and regions with the low poverty rate [0.4-10.9] is proposed based on the region's poverty rate;

improving the level of employment, and increasing the level of minimum wage as well as pensions in poverty reduction is scientifically substantiated based on the results of the Random Effects model as well as the positive effect of supporting small business and private entrepreneurship;

the poverty reduction mechanism is proposed via expanding the coverage of social benefits and increasing the level of the average pensions;

a methodology for forecasting the poverty rate in Uzbekistan up to 2030 year via fiscal instruments is developed.

Practical results of the research work are as follows:

the research conducted in Uzbekistan is classified on the periodical and thematic basis;

the importance of maintaining the addressability of the social and fiscal policies carried out by the government via grouping the regions based on the poverty rate using the econometric criteria is proved;

the significance of the fiscal instruments on the poverty rate is proved through the created econometric models;

the importance of taking into consideration the employment, small business and entrepreneurship as well as elements of the pension system in addition to fiscal instruments in poverty reduction is proved;

multivariate forecasting of the poverty rate until the year 2030 is conducted;

data used in poverty prediction is classified into two groups: Remote Sensing Data and Field Data.

Authenticity of the research results. The authenticity of the research results can be proved by using the official governmental data obtained from the Statistics Agency under the President of the Republic of Uzbekistan, Ministry of Poverty Reduction and Employment of the Republic of Uzbekistan, Ministry of Economy and Finance of the Republic of Uzbekistan, as well as using scientifically approved research methods.

Scientific and practical value of the research results. The scientific significance of the research result can be explained by grouping the work of Uzbek researchers in the field of poverty, finding scientifically based criteria for categorizing the regions of Uzbekistan according to the level of poverty, and determining the factors affecting the level of poverty.

The practical value of the research results can be explained by the supporting the programmes and strategies aimed at the poverty alleviation, improving the independence of the local budgets to reduce the poverty.

Implementation of the research results. Based on the scientific results obtained in terms of improving the fiscal policy in reducing poverty in Uzbekistan:

the proposed methodology of classification of Uzbekistan's regions into three categories, namely, regions with the high poverty rate [19.3-34.4], regions with the medium poverty rate [11.1-19.22], and regions with the low poverty rate [0.4-10.9] based on the region's poverty rate was used by the Ministry of Poverty Reduction and Employment of Uzbekistan to identify the dynamics of poverty in regions and create the balance of poor people (Reference Letter 01/00-03/28-6099 of the Ministry of Poverty Reduction and Employment from June 20, 2024). The implementation of this scientific novelty provides the realization of the Article 76 of the Goal 27 mentioned in the Appendix 1 of the Decree of the President of the Republic of Uzbekistan No. PF-37 dated February 21, 2024 "On the State Program for the Implementation of the Strategy "Uzbekistan 2030" in the "Year of Youth and Business Support";

proposals regarding the positive effect of supporting small business and private entrepreneurship, improving the level of employment, and increasing the level of minimum wage as well as pensions in poverty reduction were applied in the activities of the Ministry of Poverty Reduction and Employment of Uzbekistan

(Reference Letter 01/00-03/28-6099 of the Ministry of Poverty Reduction and Employment from June 20, 2024). Based on this scientific novelty it was substantiated that a one percent increase in the share of small business in the gross regional product will lead to the decrease in the poverty rate by 0,26 percent, a one percent increase in the employment rate can lead to the 0,24 percent decrease in the poverty rate, a one percent increase in the minimum amount of wage as well as pension can decrease poverty rate by 0,04 and 0,21 percents respectively, which, in its turn, provides the opportunity to develop strategic programs aimed at poverty reduction;

the proposed poverty reduction mechanism via expanding the coverage of social benefits and increasing the level of the average pensions was used by the Ministry of Poverty Reduction and Employment of Uzbekistan to ensure the execution of the Article 52 of the Appendix 1 of the Decree of the President of the Republic of Uzbekistan No. PF-37 dated February 21, 2024 "On the State Program for the Implementation of the Strategy "Uzbekistan 2030" in the "Year of Youth and Business Support" (Reference Letter 01/00-03/28-6099 of the Ministry of Poverty Reduction and Employment from June 20, 2024). Through the implementation of this scientific novelty it was substantiated that a ten percent increase in the pension coverage as well as an average pension can decrease the poverty rate in regions by 2,16 percent, which provided a full coverage of the total population in need of social protection in the neighborhood through the full social protection system;

Multivariate forecasts of changes in the level of poverty in the Republic of Uzbekistan until 2030 have been developed and used by the Ministry of Poverty Reduction and Employment of Uzbekistan (Reference Letter 01/00-03/28-6099 of the Ministry of Poverty Reduction and Employment from June 20, 2024). Based on this scientific novelty it was forecasted that the poverty rate will comprise 5,26 percent until 2030 in a 95 percent confidence interval and the implementation of this scientific novelty will serve to create an opportunity for mutual coordination of the future indicators of the socio-economic development and poverty reduction program in Uzbekistan until 2030.

Approbation of the research results. Theoretical and applied problems on the topic of the dissertation were discussed at 4 international conferences indexed in Scopus, 1 international conference and 2 republic conferences.

Publication of the research results. A total of 12 scientific works on the topic of the dissertation, including 2 articles in journals indexed in the Web of Science and Scopus database, and 3 articles in local journals recommended for publication of the main scientific results of doctoral dissertations of the Higher Attestation Commission of the Republic of Uzbekistan were published. 7 articles and abstracts of lectures were published at scientific and practical conferences.

The outline of the thesis. The dissertation consists of introduction, three chapters, conclusion and references. The number of pages is 132.

MAIN CONTENT OF THE DISSERTATION

The **Introduction** part of the dissertation investigates the topicality and necessity of the topic, problem development status, aim and objectives as well as object and subject of the research, the novelty and practical results, the reliability and implementation of the research results.

The first chapter of the dissertation titled "**Theoretical scientific methodological bases of poverty reduction and the importance of fiscal policy to it**" and contains the definition of poverty and its impact on economic growth, scientific and theoretical issues of the impact of fiscal policy on the poverty rate, the foreign experience in poverty reduction.

In the world the topic of poverty has always been actual and various studies have been conducting to investigate this phenomenon from various aspects. Regarding research conducted by Uzbekistan scholars on the poverty topic, it can be seen that after the independence several researchers were investigating the poverty in Uzbekistan, trying to support poor people when the economy was shifting from socialistic to market relationships. Unfortunately, during the first quarter of the twenty-first century such investigations stopped and it seemed from scientific researches that the poverty was such kind of an invisible topic unless the second president of the independent Uzbekistan – Sh. Mirziyoyev officially admitted the existence of poverty in the country and signed several decrees aimed at reducing the poverty rate and supporting poor people. Overall, in this dissertation studies conducted up till this time on the poverty topic are collected and classified. The classification of poverty researches conducted in Uzbekistan is given in Figure 1.

Fiscal policy is one of the main policies of the country, and with the help of fiscal instruments, the state can manage the entire economy. At the same time, by conducting fiscal policy, the state can also monitor the distribution of markets and national income. The essence and directions of the fiscal policy are reflected in the state budget. The state budget is a wallet of fiscal policy. The state budget is the basis of the country's fiscal policy.

Fiscal policy plays an important role in reducing poverty. As it can be seen, the role of fiscal policy in poverty reduction is significant, which can be proved from countless studies all over the world. These conducted studies can be divided into several groups depending on their research focus. For example, some researchers analyzed the impact of tax system and taxation on poverty rate, whilst others concentrated on public spending. The last group combined both governmental revenues and expenditures and analyzed their joined effect on the poverty rate.

Investigating the foreign experience is also of great importance in reducing poverty. In particular, China's experience in this regard is noteworthy. From 1978 to 2021, about 800 million people in China were lifted out of poverty. Increasing the scope of social policy in China has served to ensure economic growth and increase inclusiveness. China's social protection policy includes social insurance, social assistance, social benefits and social treatment.

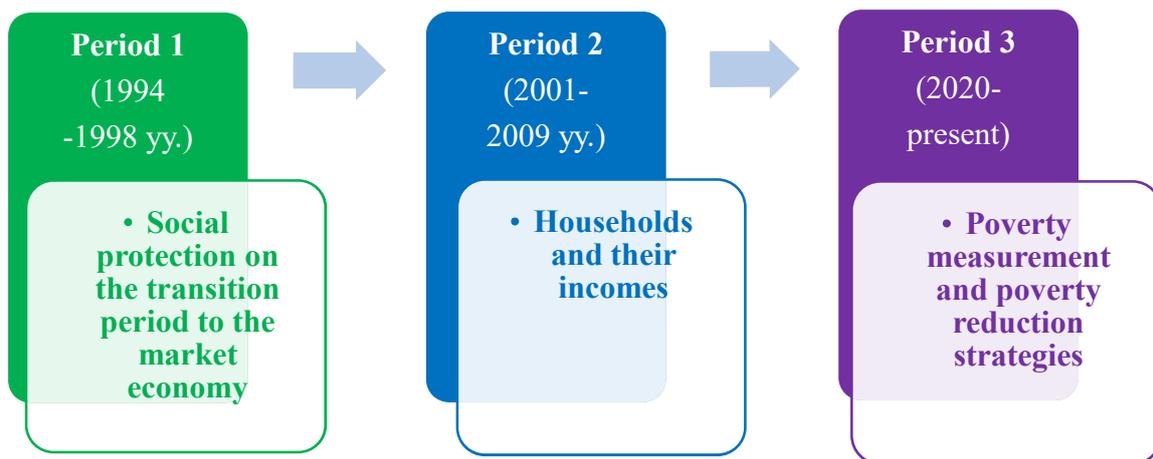


Figure 1. Classification of studies conducted in Uzbekistan on the poverty topic by periods⁵⁶

In India for poverty eradication the government focused on the small business and its support. Small Industries Development Bank of India and National Bank for Agricultural and Rural Development have been established for this purpose in India. In addition, assistance programs have been introduced by banks to improve the financial literacy of the poor population. Due to these measures, the number of poor people in India decreased by 248 million in 9 years (2013-2022) and the number of poor people decreased from 29 percent to 11 percent.

In South Korea poverty reduction relies on a model known as “[Productive Prosperity]”, which aims to improve the standard of living of all Korean citizens while promoting social development and equal distribution of national wealth. The government established a minimum wage and expanded health insurance coverage for poverty reduction purposes. In addition, the government guaranteed the provision of benefits for everyone who earns an income.

In the second chapter of the dissertation entitled "**Analysis of the Impact of Fiscal Policy as well as Economic Indicators on the Level of Poverty in Uzbekistan**" the regions of Uzbekistan were classified based on the poverty rate, next the impact of economic and fiscal indicators on the level of poverty was analyzed using panel data analysis, and the poverty rate was forecasted until 2030 using the time series analysis.

Figure 2. illustrates the dynamics of poverty rate across 14 regions of Uzbekistan for the period from 2010 to 2022. From the graphs it can be seen that all regions demonstrate different trends with different starting points, however, what is almost common among them is the anomaly changes from 2021. The regions that showed an increase in poverty rate before the changes in the poverty rate counting methodology were Andijan, Fergana, Namangan, Samarkand, Tashkent city and Khorezm, where poverty rate started increasing from 2019. So, compared with 2018, the poverty rate in 2019 increased by 1.5 times from 7.9% to 11.9% in Andijan,

⁵⁶ Author's development.

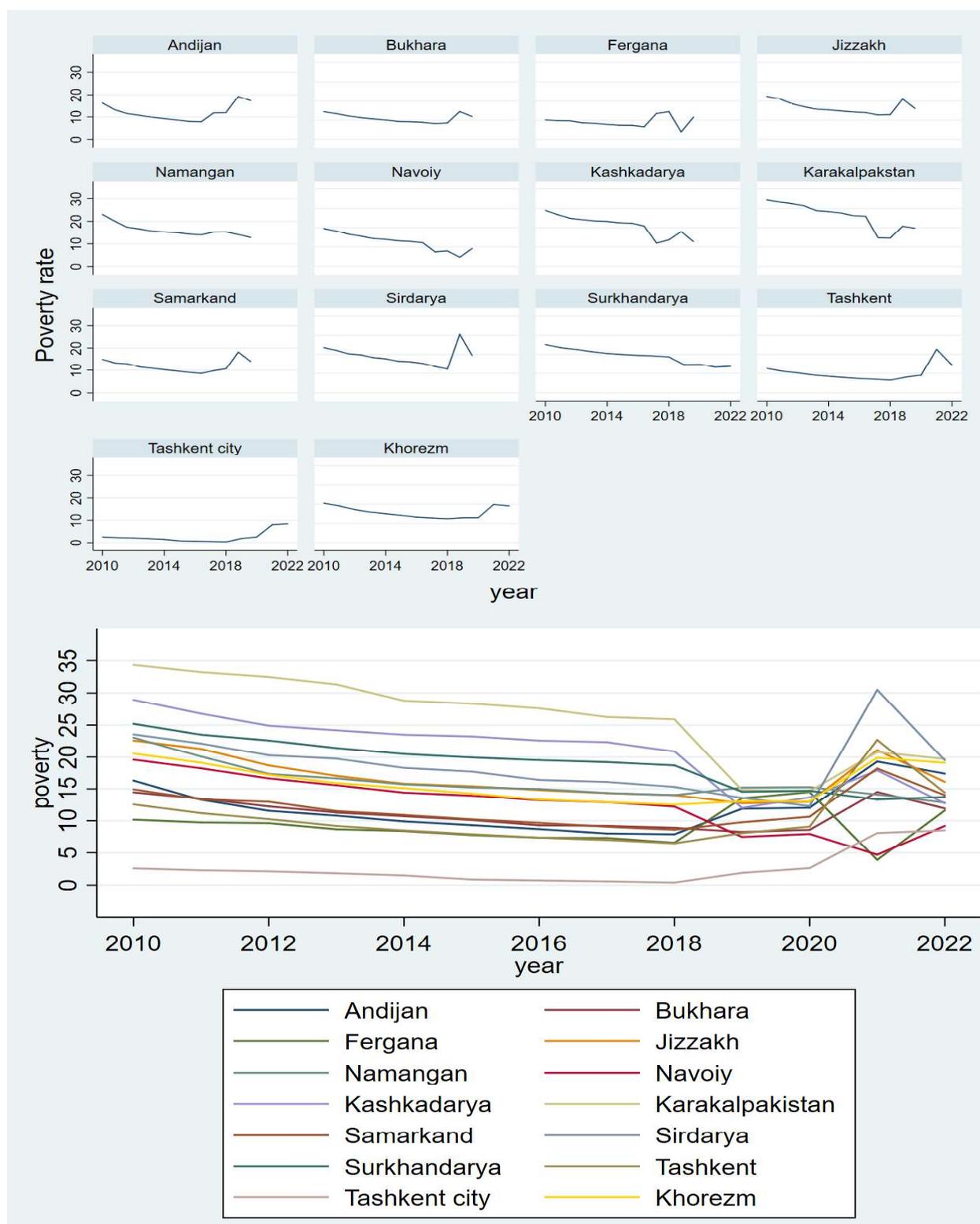


Figure 2. Poverty rate dynamics across regions of Uzbekistan (2010-2022 yy.)⁵⁷

from 6.6% to 13.5% in Fergana, from 14% to 15.2% in Namangan, from 8.6% to 9.8% in Samarkand, from 0.4% to 1.9% in Tashkent city, and from 12.5% to 13% in Khorezm. Moreover, the following regions showed a higher poverty rate at the end of the observed period compared to the starting point: Andijan (16.3%

⁵⁷ Prepared based on the information of the Statistics Agency under the President of the Republic of Uzbekistan.

vs.17.4%), Fergana (10.2% vs. 11.6%), Tashkent (12.5% vs.14.4%), Tashkent city (2.6% vs. 8.5%).As it can be seen from the Figure 2. it is clear that the regions of Uzbekistan are heterogeneous in terms of poverty, therefore, in order to divide the regions according to the situation in poverty level among regions, the Cluster Analysis is conducted. For this purpose, the data on poverty rate among 14 regions for the period from 2010 to 2022 is collected and all together are divided into three categories:

- regions with a high level of poverty;
- regions with a medium level of poverty;
- regions with a low level of poverty.

Table 1.
Description of the groups formed by the level of poverty ⁵⁸

Cluster	Freq.	Percent	Cum.
1 “High level of poverty”	43	23.63	23.63
2 “Medium level of poverty”	83	45.60	69.23
3 “Low level of poverty”	56	30.77	100.00
Total	182	100.00	

Overall, from the Table 1. it can be seen that there are 182 observations in the dataset. And among them almost a quarter belong to the first cluster “High level of poverty”. However, the most observations (83) are in the second cluster “Medium level of poverty”. Finally, one-third of the observations are in the third cluster labelled “Low level of poverty”.

Table 2.
Descriptive statistics the groups formed by the level of poverty ⁵⁹

Cluster	min	Mean	max
1 “High level of poverty”	19.3	23.8329	34.3375
2 “Medium level of poverty”	11.17921	14.60287	19.21279
3 “Low level of poverty”	0.4	7.24193	10.9
Total	0.4	14.51869	34.3375

The thresholds of the clusters are provided in Table 2. So, according to this data, the first cluster has the minimum threshold of 19.3% and maximum threshold of 34.3375%. The region is included into the second cluster if its poverty rate is between 11.17921% and 19.21279%. Finally, the region is in the third cluster if its poverty rate is lower than 10.9%.

⁵⁸ Author's development.

⁵⁹ Author's development.

In order to see the development of the regions regarding the clusters, the following years are selected: 2010, 2020, 2021 and 2023. The year 2010 is selected as it is a starting point of the observations, for this reason the year 2023 is also selected as it is the last year in the observations. The year 2020 is selected as it is the last year where the poverty rate is calculated based on the 2100 kilocalories and also in this year COVID-19 occurred. The year 2021 is chosen as it is the first year of the new poverty rate calculation methodology was applied (Figure 3).

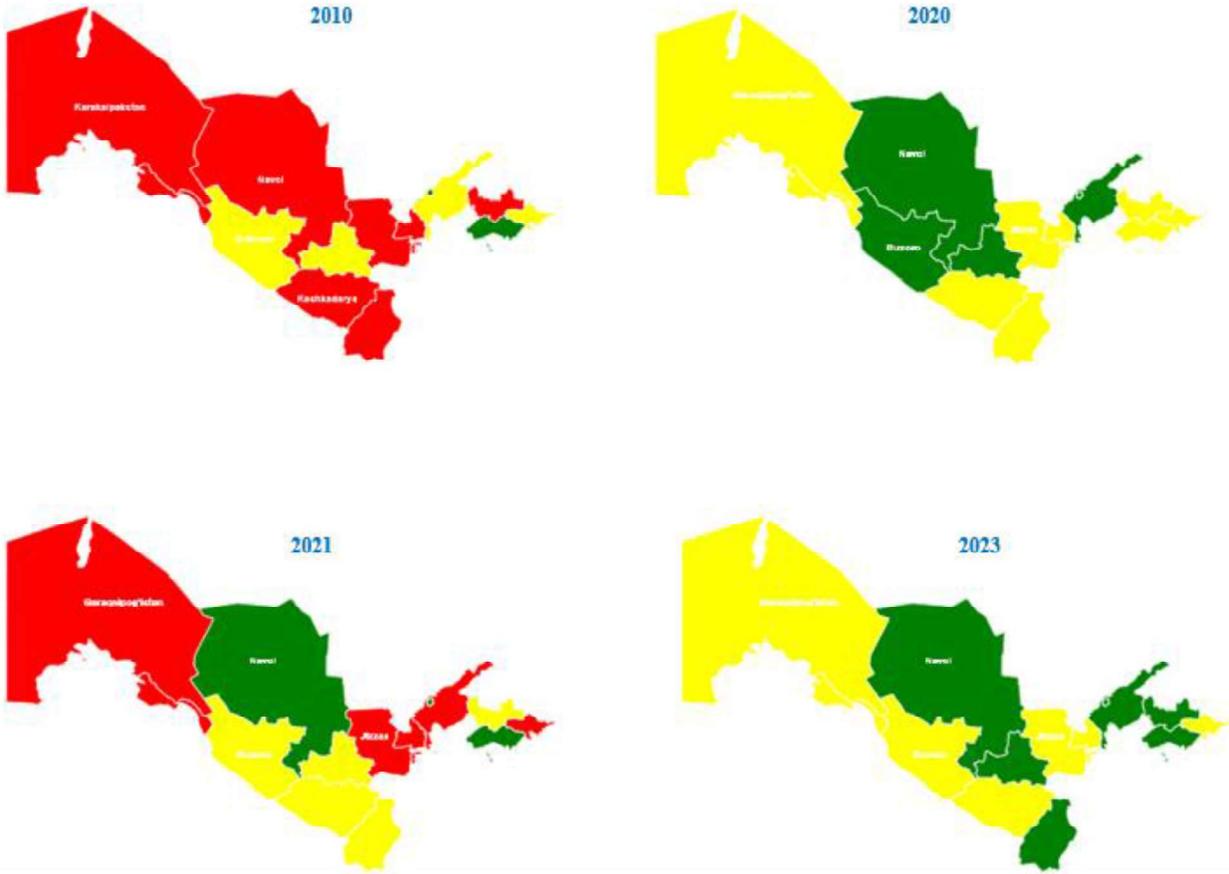


Figure 3. Classification of Uzbekistan’ regions based on the level of poverty

One of the main objectives of this dissertation is to create econometric models to investigate the impact of fiscal and economic indicators on the level of poverty in Uzbekistan. For this purpose, the panel data analysis was conducted. In order to conduct the panel data analysis, the data from 2010 to 2020 years was collected across 14 regions, and then three models were constructed: Fixed Effects Model, Random Effects Model, and Pooled Model. The optimal model among them was determined by applying the Hausman test (Table 7).

For analysis the following variables are used:

The share of low-income population (poverty). This is dependent variable. Unit of measurement is percentage. This indicator was calculated by Statistic Committee based on the recommendations of the World Bank according to the consumption of 2,100 kilocalories per day. A person, consuming less than 2,100 kilocalories per day, was considered as a person having low-income. This methodology of poverty calculation was applying from 2000 to 2020 years. Since 2021 the methodology has

changed and started being calculated through the comparison of the population income with the amount of the minimal consumer spending (MCS), according to the Decree of the Cabinet of Ministers No. 544 of August 27, 2021 . Due to the fact that the calculation of the poverty began in 2000, this year was the starting point of this analysis, whereas the last year of analysis is 2020, as the poverty rate of 2021 cannot be applied because of the changed methodology of poverty calculation, that would lead to unreliable results.

Fiscal decentralization index. This index was compiled by the researcher on the regions of Uzbekistan. The Shibosho methodology was used to calculate the fiscal decentralization index for regions. Two indicators of local budgets were used to compile the index: 1) the share of local budget tax revenues in total governmental tax revenues; 2) the share of local budget expenditures in total governmental budget expenditures.

Population. This is a control variable. In the analysis the population's growth rate was used to control the demographic situation in the model. The unit of measurement is percentage. This variable is included in the model according to the works of Kibirige⁶⁰, Yip⁶¹ and Adhika⁶².

Gross regional product per capita (GRP) – this variable was included in the model to analyze whether the economic growth of the regions have a pro-poor character, decreasing poverty rate. Unit of measurement is percentage. In the analysis it was logarithmed to avoid the problem of heteroscedasticity, to decrease the influence of outliers in the model, and to maintain the normal distribution of the residuals.

COVID_19- this is a dummy variable, which helps to reflect the impact of COVID-19 pandemic within the model. As this pandemic started in Uzbekistan in 2020, this year was coded as one, whilst all previous years were coded as zero.

Employment rate – the employment rate in Uzbekistan (in percentage).

The share of small business in gross regional product - this variable is included in the model to determine whether the share of small businesses in the regions affects the poverty rate (in percentage).

The total number of persons receiving pensions and social benefits – this variable is used in the model to analyze whether the number of people taking pensions impacts on poverty rate. In the analysis it was logarithmed to avoid the problem of heteroscedasticity, to decrease the influence of outliers in the model, and to maintain the normal distribution of the residuals.

Pension average – this variable is used in the model to analyze whether the average pension amount impacts on poverty rate. In the analysis it was logarithmed to avoid the problem of heteroscedasticity, to decrease the influence of outliers in the model, and to maintain the normal distribution of the residuals.

Minimum amount of pensions related to the age – this variable is used in the model to analyze whether the minimum amount of pensions related to age has an

⁶⁰ Kibirige, Joachim S. "Population growth, poverty and health." *Social Science & Medicine* 45.2 (1997): 247-259.

⁶¹ Yip, Paul SF, et al. "Assessing the impact of population dynamics on poverty measures: A decomposition analysis." *Social Indicators Research* 134 (2017): 531-545.

⁶² Adhika, Rismana, and Sri Ulfa Sentosa. "Could Economic Growth Moderate Population, Education and Unemployment to Poverty in Indonesia?." *The Fifth Padang International Conference On Economics Education, Economics, Business and Management, Accounting and Entrepreneurship (PICEEBA-5 2020)*. Atlantis Press, 2020.

influence on poverty rate. In the analysis it was logarithmed to avoid the problem of heteroscedasticity, to decrease the influence of outliers in the model, and to maintain the normal distribution of the residuals.

Before conducting panel data analysis, correlation analysis is conducted to see whether there is a relationship between the variables. From the results of Table 3 it can be seen that there is negative and statistically significant relationship between poverty and fiscal decentralization.

Table 3.

Correlation Analysis⁶³									
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) poverty	1.00								
(2) Fiscal decentralization index	-0.27 (0.01)	1.00							
(3) Population	-0.27 (0.00)	0.67 (0.00)	1.00						
(4) COVID19	-0.13 (0.11)	-0.32 (0.00)	0.08 (0.15)	1.00					
(5) GRP	-0.56 (0.00)	-0.29 (0.00)	0.13 (0.02)	0.32 (0.00)	1.00				
(6) Average pension	-0.42 (0.00)	-0.41 (0.00)	0.17 (0.00)	0.29 (0.00)	0.98 (0.00)	1.00			
(7) Minimal pension	-0.35 (0.00)	-0.46 (0.00)	0.21 (0.00)	0.30 (0.00)	0.96 (0.00)	0.99 (0.00)	1.00		
(8) Number of beneficiaries	-0.41 (0.00)	0.65 (0.00)	0.96 (0.00)	0.10 (0.10)	0.04 (0.47)	0.05 (0.39)	0.07 (0.21)	1.00	
(9) Minimal wage	-0.32 (0.00)	-0.39 (0.00)	0.21 (0.00)	0.40 (0.00)	0.96 (0.00)	0.98 (0.00)	0.99 (0.00)	0.09 (0.14)	1.00

⁶³ Author's development.

When it is proved that the fiscal decentralization index has a statistically significant impact on poverty rate, the last and basic model is created using the variables having a direct effect on the poverty rate. The basic model is given in Table 4. This is a Random Effects Model and the model is statistically significant at 1 % level. It can be seen that the impact of IFD on the poverty rate is strong and statistically significant at 5% level. If IFD increases by 1 unit, poverty rate will decrease by 4.58%. Also, in this model it can be seen that GRP per capita also serves to the decrease of the poverty rate. So, a 10% increase in GRP per capita will decrease poverty rate by 0.923%, which is statistically significant at 1% level. From the results it can be concluded that giving a fiscal independence in terms of controlling revenues and expenditures to local budgets can reduce the poverty rate in the regions.

Table 4.
Analysis of the impact of the fiscal decentralization index on the poverty rate⁶⁴

Poverty	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Fiscal decentralization index	-4.58	1.986	-2.31	.021	-8.472	-.688	**
Population	3.423	1.206	2.84	.005	1.059	5.787	***
COVID_19	-0.746	.846	-0.88	.378	-2.405	.913	
GRP	-9.235	1.571	-5.88	0	-12.315	-6.155	***
Constant	153.173	24.378	6.28	0	105.394	200.953	***
Mean dependent var	12.779		SD dependent var		6.014		
Overall r-squared	0.443		Number of obs		98		
Chi-square	41.147		Prob > chi2		0.000		
R-squared within	0.274		R-squared between		0.480		
*** $p < .01$, ** $p < .05$, * $p < .1$							

Table 5 illustrates the result of the analysis on the impact of the employment rate and the share of small business in GRP on the poverty rate. For this purpose, these variables were added one by one to the basic model. These models are statistically significant and REM model was chosen based on the Hausman test. In the Model 2 the impact of the employment rate on the poverty rate is analyzed. From the results it can be seen that the employment has a negative and statistically significant impact on the poverty rate.

So, if employment increases by 1%, the poverty rate will decrease by 0.236%. Based on this result it can be concluded that the measurements to further widening the employment of the population should be taken. Model 3 shows the impact of small business on the poverty rate. It can be seen that the increase of the share of small business by 1% decreases the poverty rate by 0.261% and this is statistically significant at 1% level. It can be concluded from this result that the government should make further improvements in supporting small business.

⁶⁴ Developed by author.

Table 5.**The impact of the employment rate and the small business on the poverty rate⁶⁵**

Variable	1-model (REM)	2-model (REM)	3- model (REM)
Fiscal decentralization index	-4.580119**	-3.4557599*	-7.132505***
Population	3.4229997***	2.8950318**	2.7451147**
COVID_19	-0.746	-1.194	-1.171
GRP	-9.2349933***	-7.9858774***	-13.986507***
Employment darajasi		-0.23591546**	
Small business			-0.26134797***
Constant	153.17324***	150.16465***	248.19202***

legend: * p<.1; ** p<.05; *** p<.01

Next, in Table 6 the impact of the minimum wage and the elements of the pension system on the poverty rate is analyzed. All created models are statistically significant at 1 % level. In Model 4 the impact of the minimum wage is investigated via Random Effects Model. From the results it can be seen that minimum wage has a negative and statistically significant impact on the poverty rate. So, a 10% increase in the minimum wage will decrease the poverty rate by 0.4337%.

Table 6.**The impact of the minimum wage and elements of the pension system on the poverty rate⁶⁶**

Variable	4-model (REM)	5-model (FEM)	6- model (REM)	7-model (REM)
Fiscal decentralization index	-3.4796034*	-8.2476186***	-9.3062741***	-5.7203783**
Population	2.8349933**	1.284	3.153791***	2.1121818*
COVID_19	1.786	0.272	0.227	-1.346
GRP	0.19129378*	0.084	0.052	0.040
Minimum wage	-4.3365884***			
Pension_people		-21.58562***		
Pension_average			-8.9837211***	
Pension_minimum				-21.392928***
cons	60.103835***	280.09111***	130.09134***	278.12012***

legend: * p<.1; ** p<.05; *** p<.01

From the elements of the pension system it was revealed using Fixed Effects Model that the number of people receiving pension has the highest impact on the poverty rate (see Model 5). So, if number of people getting pension increases by 10%, the poverty rate will decrease by 2.1586%. Furthermore, it was revealed with the use of the Random Effects Model that the minimum pension also affects poverty (see Model 7). It can be seen that the increase in the amount of the minimal pension also decreases the poverty rate. So, if the amount of the minimal pension increases by 10% the poverty rate will decrease by 2.1393% and this result is statistically significant at 1% level. The outcome of the Model 6 constructed using Random

⁶⁵ Developed by author.

⁶⁶ Developed by author.

Effects Model shows that there is also a negative and statistically significant relationship between the poverty rate and the amount of the average pension. So, if an average pension increases by 10%, the poverty rate will decrease by 0.8984%.

Hausman test helps to identify the statistically correct model between Fixed Effects Model and Random Effects Model. If Hausman test shows the p-value lower than 0.05, the Fixed Effects Model should be chosen, otherwise - Random Effects Model. From the Table 2.2.18 it can be seen that only 5-model is constructed based on the Fixed Effects Model methodology, whereas in other Random Effects Model is applied.

Table 7.

Results of the Hausman test⁶⁷

Model	1-model	2-model	3-model	4-model	5-model	6-model	7-model
Prob>chi2	0.7571	0.1065	0.5375	0.7137	0.0385	0.9958	0.7890
Conclusion	RE	RE	RE	RE	FE	RE	RE

To analyze the poverty situation in general in Uzbekistan, Time Series Analysis is conducted and Vector Autoregressive (VAR) Model is created. In order to create VAR Model the following macroeconomic data of Uzbekistan is used: poverty rate (%), growth rate of GDP (%), the share of tax revenues in GDP (%), the share of small business in GDP (%). The period of observations is twenty-three years starting from 2000 and finishing 2022. The descriptive statistics of the used data in the analysis is provided in Table 8.

Table 8.

Descriptive statistics⁶⁸

Variable	Obs	Mean	Std. Dev.	Min	Max
Fpoverty	23	18.216	6.21	11	27.5
gdp percent	23	6.288	1.828	1.996	9.473
Taxpercent	22	19.457	4.304	11.697	28.5
small bus share	23	51.087	11.798	31	66.8

Initially, before creating models, all used variables are checked for the stationarity using two unit-root tests, namely Dickey–Fuller (DF) test and Phillips–Perron (PP) test. Besides, along with the unit root tests the stationarity test also is conducted through the Kwiatkowski–Phillips–Schmidt–Shin (KPSS) test.

Table 9.

Summary of the stationarity tests⁶⁹

	DF			PP			KPSS	
	non constant	constant	trend	non constant	constant	trend	trend	non trend
Poverty	-1.96 **	-0.56	-1.19	-0.61	-0.80	-7.36	0.30 ***	2.21 ***

⁶⁷ Author's development.

⁶⁸ Author's development.

⁶⁹ Author's development.

D.poverty	-3.52 ***	-4.72 ***	-5.20 ***	-14.85 ***	-18.60 ***	-15.95 ***	0.201 **	0.331 *
gdp_percent	0.48	-2.83 *	-2.79	-0.17	-10.42 *	-9.73	0.336 ***	0.34 *
D. gdp_percent	-7.36 ***	-7.21 ***	-7.20 ***	-29.77 ***	-29.93 ***	-29.11 ***	0.03	0.09
Taxpercent	-1.71 *	-2.31	-1.5	-0.71	-4.34	-8.02	0.201 **	1.75 ***
D.taxpercen t	-3.36 ***	-3.34 **	-3.39 *	-13.12 ***	-13.80 **	-14.91 *	0.063	0.301
small_bus_s hare	0.89	-1.89	0.24	0.24	-2.72	0.07	0.48 ***	1.71 ***
D. small_bus_s hare	-2.72 ***	-2.7 *	-3.28 *	-10.93 **	-11.84 *	-14.99 *	0.12 **	0.429 **

*** $p < .01$, ** $p < .05$, * $p < .1$

The difference between unit root tests and stationarity test is in the null hypothesis. So, in unit root tests the null hypothesis is that the variable is unit root, in other words, nonstationary. Whereas, in the stationarity test the null hypothesis assumes that the variable is stationary. Table 9. illustrates the results of the stationarity tests. It can be seen that all used variables are stationary at the first level of integration (I 1). Therefore, when creating the VAR model, the first difference is used for all variables. When creating the VAR model, the second lag of all variables is chosen as it was the optimum lag according to the autoregression lag test. Owing to the fact of using the first difference in all variables and adding two lags into the model, the number of observations decreased to nineteen.

Table 10.

Forecasted poverty rate in Uzbekistan⁷⁰

Year	Poverty rate (Forecast)
2023	12,45
2024	11,59
2025	10,25
2026	8,84
2027	8,23
2028	7,55
2029	6,32
2030	5,26

Based on the created VAR model poverty forecasting was conducted until the year 2030 (Table 10 and Figure 4). From the results of the forecasting, it can be seen that till the year 2030 the poverty rate will be decreasing gradually reaching 5.26% in 2030 year.

⁷⁰ Author's development.

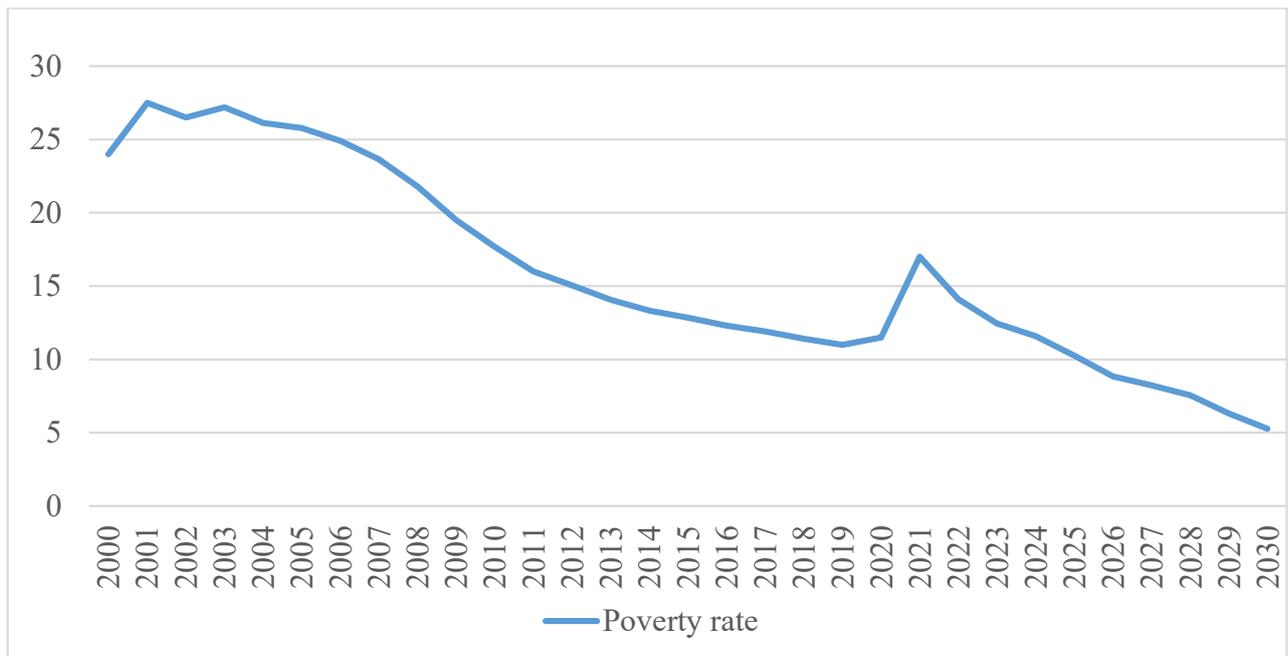


Figure 4. Forecasting of the poverty rate in Uzbekistan until 2030 year⁷¹

The third chapter of the dissertation entitled "**Perspectives of Poverty Reduction through Fiscal Policy and Digitalization**" contains an analysis of the work aimed at poverty reduction in Uzbekistan, measures of financial policy and financial support in reducing poverty in Uzbekistan, as well as the role of digital technologies in decreasing poverty.

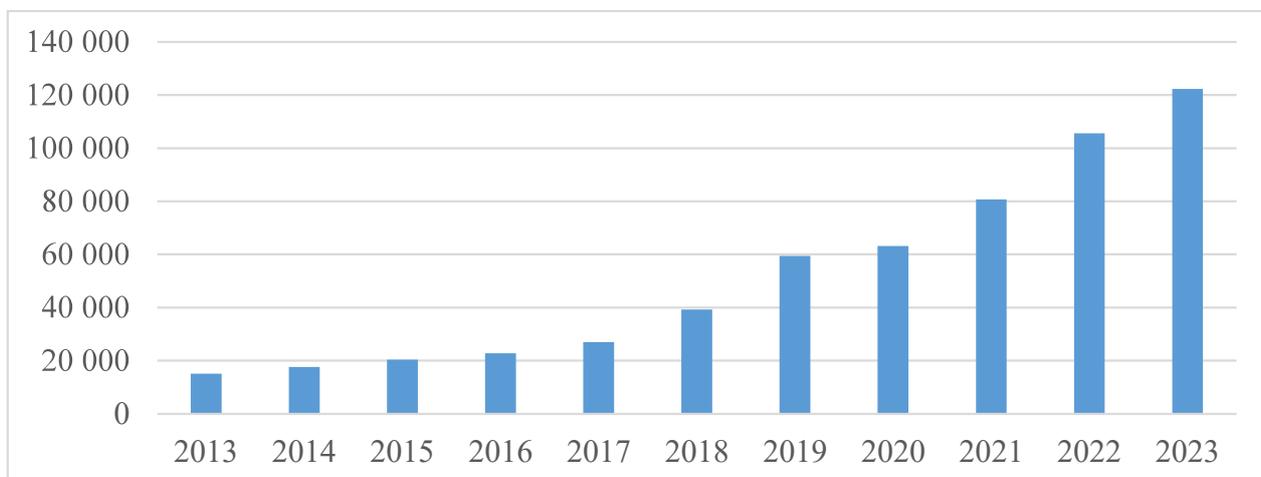


Figure 5. Forecasting of the poverty rate in Uzbekistan until 2030 year

Nowadays a big attention is paid into poverty issue in Uzbekistan. After the Presidential speech different actions have been taking towards solving this problem. But before solving, it is important to measure the poverty and identify poor people. Only in case of addressed policy support of the poor, the big achievements can be reached. One of interesting moments became the change in poverty measurement, which from 2020 started being calculated in different way via minimum consumer spending.

⁷¹ Author's development.

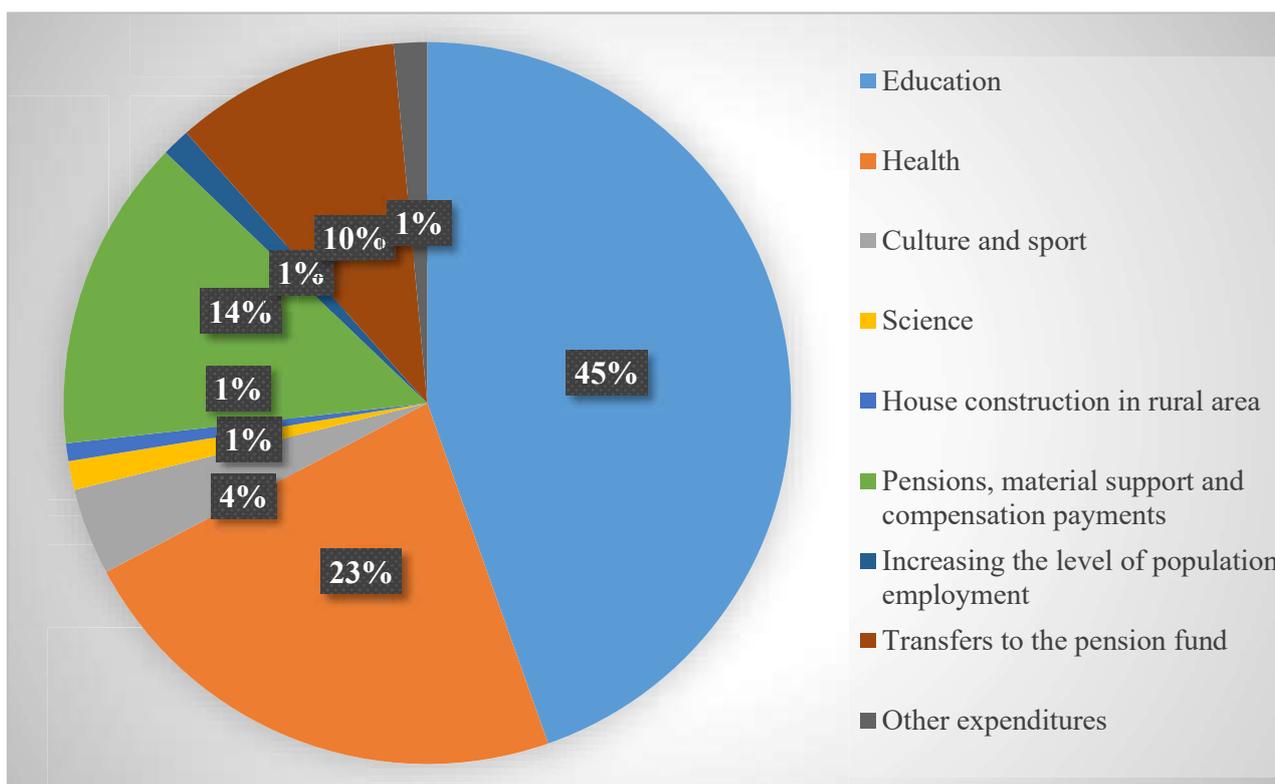


Figure 6. Structure of social expenditures in Uzbekistan in 2023 y.⁷²

In order to execute the Presidential Decrees «On the state program on the implementation of the Strategy of Actions on the five priority directions of the development of the Republic of Uzbekistan in 2017-2021 in the "Year of supporting youth and strengthening the health of the population" PF-6155 from February 3, 2021 and "On measures to provide financial assistance to low-income families and to further expand the scope of combating poverty", PF-6277 from August 11, 2021 and 6277, the Cabinet of Ministers developed the Resolution No.544 "On Implementation of the Procedure for Calculating the Value of Minimum Consumption Spending into Practice" on August 27, 2021. In accordance with this Resolution the minimum consumer spending (MCS) became a poverty line in Uzbekistan. Furthermore, the criterion of monthly income per capita, which is used in the process of recognizing a family as low-income through the information system of the "Single Register for Social Protection", was equalized to the MCS. Also, it was mentioned that the forecast indicators of the value of MCS should be taken into account in formation of the expenditure part of the State budget of the Republic of Uzbekistan for the next year. The composition of MCS should be revised at least every 5 years, considering the development of the republic's economy and changes in the income and expenses of the population. Based on this Resolution the followings were determined and approved: MCS, poverty rate, real consumption of households and its components, principles, stages and order of determining MCS amount for food and non-food products and services.

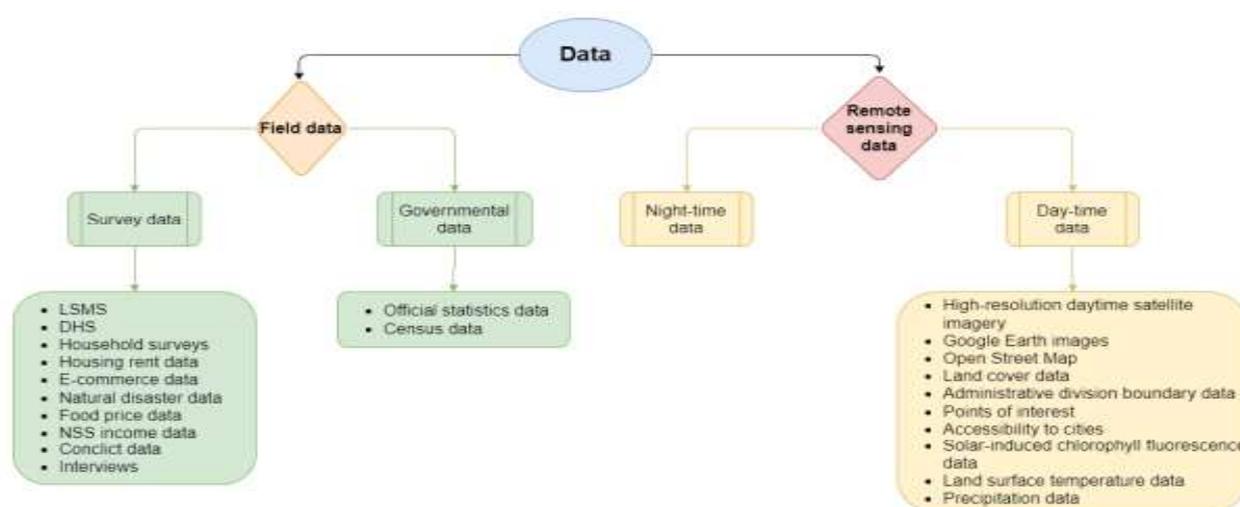
The government of Uzbekistan pays a big attention on the poverty issue and conducts special fiscal policy measurements for poverty reduction. As President of the Republic of Uzbekistan Sh. Mirziyoyev in his speech to Oliy Majlis mentioned that the aims of the government are to establish New Uzbekistan on the basis of principle of "social country", reduce poverty, create equal opportunities to all people to realize their potential, design the necessary conditions for a decent life for citizens.

⁷² Prepared based on the information of the Ministry of Economy and Finance of the Republic of Uzbekistan.

Table 11.

Subsidies allocated to the regions⁷³

Region	Population	Poverty rate	A loan allocated within the framework of family business development programs		Allocated subsidies		Vocational and entrepreneurship education, quantity
			Quantity	Amount, billion soums	Quantity	Amount, billion soums	
Karakalpakstan	1 997 144	13,6	53 186	829,6	4 859	25 610,5	15 872
Andijan	3 321 308	11,9	47 605	876,4	7 854	56 785,0	6 400
Bukhara	2 029 898	11,8	37 164	922,0	4 487	22 355,8	11 005
Jizzakh	1 480 774	14,2	33 509	560,3	4 167	20 100,0	7 172
Kashkadarya	3 557 531	11,5	40 864	906,7	6 755	29 252,2	17 365
Sirdarya	914 048	13,8	20 957	471,1	2 558	14 242,8	10 783
Khorezm	1 960 031	14,1	34 420	870,3	6 123	31 570,1	12 909
Fergana	4 058 065	10,1	43 762	800,3	8 000	35 136,3	19 265
Tashkent city	2 983 127	7,9	3 156	80,6	3 899	22 033,5	6 076
Namangan	3 053 457	10,4	10 984	283,2	5 582	18 517,8	16 310
Navoiy	1 056 462	7,6	22 222	581,0	2 285	10 258,1	7 142
Samarkand	4 201 937	10,5	50 511	991,5	6 695	30 114,6	27 794
Surkhandarya	2 804 436	10,6	41 407	890,3	6 713	25 464,9	14 978
Tashkent	3 062 692	10,2	32 274	801,0	2732	14 351,1	7417

Figure 7. The classification of the data used in poverty prediction via AI algorithms⁷⁴

Therefore, the budget expenditures into social sphere are also growing year by year (see Figure 5). Nowadays big work has been realizing in poverty reduction sphere in Uzbekistan. The structure of the social expenditures in Uzbekistan is illustrated in Figure 6. As it can be seen, nearly the half of the social expenditures are spent in the sphere of education, followed by health (23%) and culture and sport.

⁷³Prepared based on the information of the Ministry of Poverty Reduction and Employment of the Republic of Uzbekistan.

⁷⁴ Usmanova, A., Aziz, A., Rakhmonov, D., & Osamy, W. Utilities of Artificial Intelligence in Poverty Prediction: A Review. // Sustainability // ISSN: 2071-1050, Volume 14, Issue 21, pp 14238, 2022 <https://doi.org/10.3390/su142114238> (Web of Science, Impact Factor: 3.3).

Table 11 illustrates the division of subsidies in the regions as well as the poverty rate in 2023. In yellow colour regions with medium poverty rate are highlighted whereas in green colour regions with the low poverty rate are highlighted. As foreign researchers propose, the regions with high level of poverty rate should be subsidized more, whereas in Uzbekistan it can be seen that some regions with low poverty rate get subsidies more than the regions with higher poverty rate.

Digital technologies have been entering every aspects of life rapidly. Nowadays almost two-thirds of the global population has an access to the Internet⁷⁵ as well as 60.42% of the global population own smartphones⁷⁶. In Uzbekistan 30.1 million people or 83% of the population have access to the Internet. Besides, in Uzbekistan are active 33.81 million cellular mobile connections which comprises 95.5% of the country’s population⁷⁷. All the abovementioned figures illustrate that the digital technologies became an essential part of our life and they also can be used for the poverty reduction purposes.

The role of digital technologies, in particular AI, is big in poverty prediction and reduction. All data used in the papers can be divided into two large groups: field data and remote sensing data. The big difference between them is that field data are data collected via surveys and official government reports whilst remote data were taken from cosmos using satellites. In accordance with the subject of collection, field data can be divided into governmental data, data collected by governments and served as official information, and survey data, which include data collected by international organisations or independent researchers and cannot serve as the official position of a country. Remote sensing data, in its turn, also can be divided into two sub-groups according to the time of collection: nighttime data and day-time data (Figure 7).

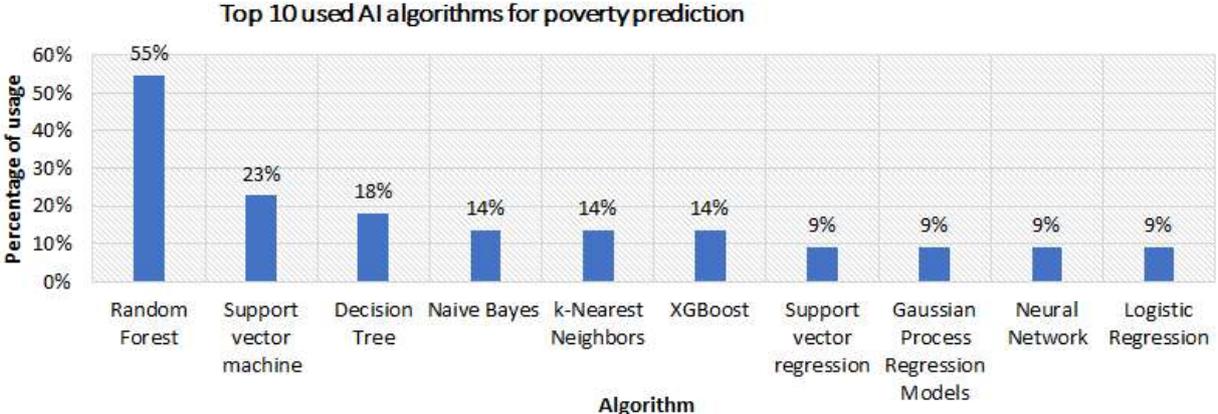


Figure 8. The most ten popular AI algorithms for poverty prediction⁷⁸.

The most ten popular AI algorithms are given in Figure 8. Overall, from 2016 to the March 2022 fifty-seven AI algorithms were applied for poverty prediction. The most popular AI algorithm was Random Forest, followed by Support Vector Machine and Decision Tress algorithms.

Finally, it can be seen that despite the short period of time when the government officially admitted the existence of poverty in Uzbekistan and launched different programmes for its identification and alleviation, the big work has already been

⁷⁵ <https://www.statista.com/topics/1145/internet-usage-worldwide/>
⁷⁶ <https://prioridata.com/data/smartphone-stats/>
⁷⁷ <https://datareportal.com/reports/digital-2024-uzbekistan#:~:text=Uzbekistan%20was%20home%20to%208.70,percent%20of%20the%20total%20population.>
⁷⁸ Usmanova, Aziza, et al. "Utilities of Artificial Intelligence in Poverty Prediction: A Review." Sustainability 14.21 (2022): 14238.

done. Yet, the more work is expected. So, while in Uzbekistan the MPI has only created, other countries have been measuring it for more than a decade period. Furthermore, the tools for poverty prediction as well as features of poverty are also quite big, which give an opportunity to monitor poverty in online and real-time basis without big expenditures. Therefore, it is important to introduce new technologies and methods of poverty prediction in Uzbekistan and on their basis to develop our own set of indicators of poverty and analyze them using AI algorithms.

CONCLUSION

This dissertation is concerned about the analysis of the impact of fiscal policy on the poverty rate. Based on the conducted analysis, the following conclusions and recommendations can be derived:

1. In Uzbekistan, different approaches to investigating poverty are applied in different periods. Specifically, in the period from 1994 to 1998, social protection during the period transitioning from the command economy to the market economy was investigated. From 2001 to 2009, households and their incomes were studied. Unfortunately, there was no research conducted from 2009 until 2020. In 2020, the President officially announced the existence of poverty in Uzbekistan, after which the several research works were conducted on this topic. Therefore, this period is known as the period of “Poverty measurement and poverty reduction strategies”.

2. The methodology of clustering the regions of Uzbekistan into three categories based on the poverty rate, namely, regions with the high poverty rate [19.3-34.4], regions with the medium poverty rate [11.1-19.22], and regions with the low poverty rate [0.1-10.9] was developed.

3. In 2020 prior to COVID-19 pandemic no region in Uzbekistan was in the cluster of high level of poverty. However, starting from 2021 several regions fell into the category of the regions with high level of poverty owing to pandemic as well as changes in poverty calculation.

4. The output of the created econometric models illustrates that the minimum wage has a negative and statistically significant impact on the poverty rate. Specifically, a 10% increase in the minimum wage will decrease the poverty rate by 0.2714%.

5. In the created models, it was empirically proved that the employment rate has a negative and statistically significant impact on the poverty rate. Namely, if employment increases by 1%, the poverty rate will decrease by 0.302%. Based on this result it can be concluded that the measurements to further widening the employment of the population should be taken to reduce the poverty rate.

6. Results of the panel data analysis illustrate that the increase of the share of small business by 1% decreases the poverty rate by 0.149% and this is statistically significant at 1% level. It can be concluded from this result that the government should make further improvements in supporting small business.

7. From the elements of the pension system, the number of people receiving pension has the highest impact on the poverty rate. Namely, if the number of people receiving pension increases by 10%, the poverty rate will decrease by 2.1586%. Regarding the average pension, if the average pension increases by 10%, the poverty rate will decrease by 0.8984%. As for the amount of the minimal pension, if it increases by 10% the poverty rate will decrease by 2.1393% and this result is statistically significant at 1% level.

8. It is predicted that until 2030 the poverty rate in Uzbekistan will be steadily decreasing, comprising 5,26% in 2030.

9. Data used for poverty prediction using AI is divided into two groups: field data and remote sensing data.

**НАУЧНЫЙ СОВЕТ DSc. 22/29.12.2023.I.175.01
ПО ПРИСУЖДЕНИЮ УЧЕНОЙ СТЕПЕНИ ПРИ
ТАШКЕНТСКОМ МЕЖДУНАРОДНОМ УНИВЕРСИТЕТЕ**

**ТАШКЕНТСКИЙ ГОСУДАРСТВЕННЫЙ ЭКОНОМИЧЕСКИЙ
УНИВЕРСИТЕТ**

УСМАНОВА АЗИЗА АЛИШЕРОВНА

**ПЕРСПЕКТИВЫ ПРИМЕНЕНИЯ ФИСКАЛЬНЫХ ИНСТРУМЕНТОВ
В СОКРАЩЕНИИ БЕДНОСТИ В УЗБЕКИСТАНЕ**

08.00.07 – Финансы, денежное обращение и кредит

**АВТОРЕФЕРАТ
на соискание ученой степени доктора философии (PhD)
по экономическим наукам**

город Ташкент – 2024 год

Тема диссертации доктора философии (PhD) зарегистрирована Высшей аттестационной комиссией при Министерстве высшего образования, науки и инноваций за номером B2022.2.PhD/Lqt2214.

Диссертация выполнена в Ташкентском государственном экономическом университете.

Автореферат диссертации на трех языках (узбекском, английском, русском (резюме)) размещён на веб-сайте Научного совета (www.tiu.uz) и на Информационно-образовательном портале «ZiyoNet» (www.ziynet.uz).

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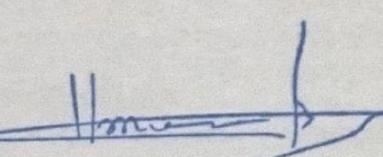
Ведущая организация: Международный Университет Нордик

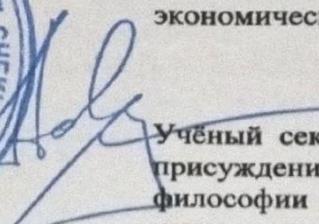
Защита диссертации состоится «7» 12 2024 года в 10⁰⁰ часов на заседании Научного совета DSc.22/29.12.2023.I.175.01 по присуждению ученых степеней при Ташкентском международном университете. (Адрес: 100114, г.Ташкент, ул. Малая кольцевая, 7. Тел.: (99895) 131-55-55; факс: (99895) 131-55-55; e-mail: info@tiu.uz)

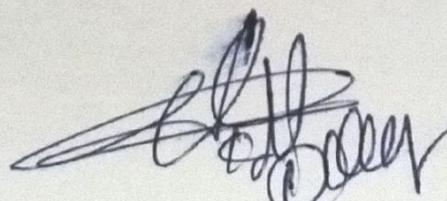
С диссертацией можно ознакомиться в Информационно-ресурсном центре Ташкентского международного университета (зарегистрирован под номером 19). Адрес: 100114, г.Ташкент, ул. Малая кольцевая, 7. Тел.: (99895) 131-55-55; факс: (99895) 131-55-55; e-mail: info@tiu.uz

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ВВЕДЕНИЕ (аннотация диссертации доктора философии (PhD))

Целью исследования является изучение бедности в Узбекистане, выявление фискальных и экономических факторов, влияющих на уровень бедности, разработка предложений и практических рекомендаций по сокращению бедности.

Задачи исследования заключаются в следующем:

изучение научно-теоретической основы влияния фискальной политики на уровень бедности;

категоризация регионов Узбекистана по уровню бедности посредством эконометрического метода грУПпировки;

построение эконометрических моделей для анализа влияния фискальных и экономических показателей на уровень бедности;

разработка прогнозных показателей уровня бедности в Узбекистане до 2030 года;

подготовка предложений по использованию цифровых технологий в расчете и сокращении уровня бедности;

разработка предложений и рекомендаций по совершенствованию использования направлений фискальной политики для сокращения уровня бедности в Узбекистане.

В качестве **объекта исследования** выбраны направления фискальной политики для сокращения уровня бедности в Узбекистане.

Предметом исследования являются экономические отношения, возникающие в процессе сокращения бедности посредством направлений фискальной политики в Узбекистане.

Методы исследования. В диссертации были использованы следующие эконометрические методы: корреляционный анализ, кластерный анализ, анализ панельных данных, метод анализа главных компонент (PCA – principal component analysis) и метод векторной авторегрессии (VAR).

Научная новизна исследования заключается в следующем:

на основе качественных критериев регионов Узбекистана разработана методика оценки порогов уровня бедности регионов с высоким [19,3-34,4], средним [11,1-19,22] и низким уровнем бедности;

на основе результатов модели Random Effects научно обоснован положительный эффект поддержки малого бизнеса и частного предпринимательства, повышения уровня занятости населения, повышения минимальной заработной платы в регионах в снижении уровня бедности;

предложен механизм сокращения бедности путем расширения охвата населения социальной пенсией и увеличения среднего размера пособий;

разработаны многофакторные прогнозные показатели изменения уровня бедности в Республике Узбекистан до 2030-года под воздействием фискальных инструментов.

Научная и практическая значимость результатов исследования.

Научную значимость результатов исследования можно объяснить классификацией работ Узбекских исследователей в сфере бедности,

нахождением научно обоснованных критериев категоризации регионов Узбекистана по уровню бедности, выявлением факторов, влияющих на уровень бедности.

Практическая значимость результатов исследования может быть объяснена поддержкой программ и стратегий, направленных на снижение уровня бедности и повышения независимости местных бюджетов.

Внедрение результатов исследования. На основе научных результатов по совершенствованию направлений использования преимуществ фискальной политики в сокращении бедности в Узбекистане:

Предложение о методике оценки высокого [19,3-34,4], среднего [11,1-19,22] и низкого [0,4-10,9] порогов уровня бедности регионов Узбекистана на основе качественных критериев было использовано Министерством по сокращению бедности и занятости для выявления динамики уровня бедности в регионах и формирования баланса населения, проживающего в бедности. Внедрение данной научной новизны послужило реализации 76-пункта 27-цели Приложения 1 Указа Президента Республики Узбекистан УП-37 от 21 февраля 2024 года «О Государственной программе реализации Стратегии «Узбекистан 2030» в «Год поддержки молодежи и бизнеса» и формирования баланса бедного населения (Справка № 01/00-03/28-6099 Министерства по сокращению бедности и занятости от 20 июня 2024 г.);

Предложения о положительном эффекте поддержки малого бизнеса и частного предпринимательства, повышения уровня занятости населения и увеличения минимального размера заработной платы, а также пенсий и пособий в снижении уровня бедности в регионах на основе модели «Random Effects» были применены в осуществлении деятельности Министерства по сокращению бедности и занятости (Справка № 01/00-03/28-6099 Министерства по сокращению бедности и занятости от 20 июня 2024 г.). Результаты данной научной новизны обосновали, что при увеличении на 1 процент доли малого бизнеса и частного предпринимательства в валовом региональном продукте уровень бедности снизится на 0,26 процентов, при увеличении уровня занятости в регионах на 1 процент уровень бедности снизится на 0,24 процентов, при повышении минимального размера заработной платы, а также пенсий и пособий на 1 процент уровень бедности снизится на 0,04 и 0,21 процентов соответственно;

Предложение механизма сокращения уровня бедности в регионах путем расширения охвата малоимущего населения социальными пенсиями и увеличения среднего размера пособий было применено Министерством по сокращению бедности и занятости для обеспечения реализации 52 пункта Приложения 1 Указа Президента Республики Узбекистан УП-37 от 21 февраля 2024 года «О Государственной программе по реализации Стратегии «Узбекистан — 2030» в «Год поддержки молодежи и бизнеса» (Справка № 01/00-03/28-6099 Министерства по сокращению бедности и занятости от 20 июня 2024 г.). Путем внедрения данной научной новизны было обосновано, что расширение охвата малоимущего населения социальными пенсиями и увеличение среднего размера пособий на 10 процентов снизит уровень

бедности на 2,16 процентов и служит обеспечению охвата каждого нуждающегося в социальной защите в махаллях через полную систему социальной защиты;

Разработанные многофакторные прогнозные показатели изменения уровня бедности в Республике Узбекистан до 2030-года под воздействием фискальных инструментов были применены в деятельности Министерства по сокращению бедности и занятости (Справка № 01/00-03/28-6099 Министерства по сокращению бедности и занятости от 20 июня 2024 г.). В результате данной научной новизны было определено, что на основании оптимистических прогнозов уровень бедности в Узбекистане в 2030 году составит 5,26 процентов на уровне доверительного интервала в 95%, что в свою очередь, послужит созданию возможности для взаимного согласования будущих показателей программы социально-экономического развития и сокращения бедности в Узбекистане до 2030 года.

Апробация результатов исследования. Результаты данного исследования апробированы на 7 научно-практических конференциях, в том числе 2 республиканских и 5 международных, из них 4 международные конференции проиндексированы в базе Scopus.

Опубликованность результатов исследования. Всего по теме диссертации опубликовано 12 научных работ, в том числе 2 научные статьи были опубликованы в международных журналах, индексируемых в базах данных Web of Science и Scopus, 3 статьи были опубликованы в республиканских журналах рекомендованных Высшей аттестационной комиссией Республики Узбекистан для публикации основных научных результатов докторских диссертаций, а также 7 тезисов и докладов на научно-практических конференциях.

Структура и объем диссертации. Диссертационная работа состоит из введения, трех глав, заключения и списка использованной литературы. Объем диссертации составляет 132 страниц.

E‘LON QILINGAN ISHLAR RO‘YXATI
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I bo‘lim (part I, I часть)

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2. Усманова А. Анализ современных тенденций в измерении уровня бедности // Экономика и образование// 2023 (Maxsus_son), 482–487. <https://cedr.tsue.uz/index.php/journal/article/view/696> (08.00.00 №11).

3. Усманова А. Изучение влияния фискальной политики на уровень бедности в Узбекистане // Soliq va hayot // 2023-yil 2-son, 238-246 betlar (08.00.00 Oliy attestatsiya komissiyasi rayosatining 2021 yil 15 martdagi 296/5 sonli qarori).

4. Усманова А. Роль фискальных инструментов в сокращении бедности в Узбекистане // Yashil iqtisodiyot va taraqqiyot // 2024-yil 10-son, 972-977 betlar (08.00.00 Oliy attestatsiya komissiyasi rayosatining 2024-yil 28- avgustdagi 360/5-sonli qarori)

5. Usmanova, Aziza. "An Empirical Investigation of the Relationship Between E-government Development and Multidimensional Poverty." Internet of Things, Smart Spaces, and Next Generation Networks and Systems: 22nd International Conference, NEW2AN 2022, Tashkent, Uzbekistan, December 15–16, 2022, Proceedings. Cham: Springer Nature Switzerland, 2023. (Scopus).

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7. Usmanova A., Взаимосвязь между уровнем бедности и фискальной политикой в условиях цифровой экономики, “Raqamli iqtisodiyot sharoitida fiskal siyosatni takomillashtirish muammolari” mavzusidagi xalqaro konferensiya materiallari, 4 noyabr, 2022 yil.

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9. Usmanova A. Анализ влияния финансовой политики на уровень бедности в Узбекистане, “Fiskal barqarorlikni ta‘minlashda zamonaviy tendensiyalar, istiqbollar va rivojlanishning ustuvor yo‘nalishlari” mavzusidagi Respublika ilmiy-amaliy konferensiya materiallari. Toshkent, 15-16 mart 2024 yil. Soliq qo‘mitasi huzuridagi Fiskal instituti. 441-443 b.

II bo‘lim (part II, II часть)

10. Usmanova, A., Aziz, A., Rakhmonov, D., Osamy, W. Utilities of Artificial Intelligence in Poverty Prediction: A Review. // Sustainability // ISSN: 2071-1050, Volume 14, Issue 21, pp 14238, 2022 <https://doi.org/10.3390/su142114238> (Web of Science, Impact Factor: 3.3).

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