Understanding the Drivers of Poverty in Afghanistan

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List of Acronyms

AFMIS	Afghanistan Financial Management Information System
AFN	Afghani (currency)
ALCS	Afghanistan Living Conditions Survey
ANSF	Afghan National Security Forces
CGE	Computable General Equilibrium model
COFOG	Classification of the Functions of Government
DAD	Development Assistance Database
FY	Fiscal Year
GDP	Gross Domestic Product
GED	Georeferenced Event Dataset
GIZ	Gesellschaft für Internationale Zusammenarbeit
GoIRA	Government of Islamic Republic of Afghanistan
HCR	Headcount (poverty) ratio
HH	Household
IELFS	Income, Expenditure and Labor Force Survey
ISAF	International Security Assistance Force
LSE	London School of Economics & Political Science
MoF	Ministry of Finance
NATO	North Atlantic Treaty Organization
NERAP	National Emergency Rural Access Project
NRVA	National Risk & Vulnerability Assessment
NSIA	National Statistics and Information Authority
NSP	National Solidarity Program
OECD	Organisation for Economic Cooperation and Development
PP	Percentage point
SIGAR	Special Inspector General for Afghanistan Reconstruction
TVET	Technical and vocational education and training
UCDP	Uppsala Conflict Data Program
UNAMA	United Nations Assistance Mission in Afghanistan
UNDP	United Nations Development Programme
UNHCR	United Nations High Commissioner for Refugees
UN-OCHA	United Nations Office for the Coordination of Humanitarian Affairs
UNODC	United Nations Office on Drugs and Crime
US	United States
USAID	United States Agency for International Development
USD	US dollar
WDI	World Development Indicators

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Abstract

Afghanistan's recent development experience reveals few paradoxes; poverty increased between 2007 and 2016 despite strong economic growth and massive aid inflows, while in the subsequent period until 2020, poverty moderated despite growing insecurity and declining off-budget aid. This report attempts to better understand some of the dynamics behind the evolution of poverty in Afghanistan in the past two decades. It identifies the correlates of poverty at household-, community- and provincial levels, by undertaking a statistical and econometric analysis and combining data from four rounds of household surveys since 2007 with other regional and panel datasets, including conflict and off-budget aid data. Based on the results, it develops a policy framework to guide the interventions for poverty alleviation, equally informed by past policy failures and the political economy context. The framework not only proposes a set of economic and structural policies to fight poverty in the short, medium and long terms, it also suggests a set of institutional arrangements to ensure increased effectiveness in poverty reduction efforts supported by the international community in the country.

I. Overview Chapter

Afghanistan's development experience in the past two decades has been oddly mixed. On the one hand, the country enjoyed unprecedented levels of income and economic growth, coupled with impressive gains in various dimensions of human development, particularly in education and health. On the other hand, Afghanistan failed to leverage the strong economic growth that it experienced until 2012 and the enormous opportunities that were brought about by massive inflow of foreign aid (nearly $160 billion cumulatively between 2002 and 2020)[1] to reduce poverty and to build pro-poor institutions.

Over the course of ten years, per capita income in Afghanistan more than tripled from less than $200 in 2002 to nearly $700 in 2012 (the first year after the start of the Security Transition[2]), thanks to an average economic growth of 9.4 percent during the same period. Secondary school enrolment increased from merely 12.5 percent in 2002 to 55.4 percent in 2018, and infant mortality rate dropped from 85 to 48 births (per 1,000 live births) over the same period (WDI, 2021). However, despite the strong economic growth, poverty rate increased from 33.7 percent in 2007 to 54.5 in 2016, before moderating to 47.1 percent in 2020. In spite of enormous public investments in development and strengthening of institutions for risk insurance and economic resilience, the economy remained highly fragile and economic outcomes remained extremely vulnerable to politico-economic shocks. Poverty rate is now predicted to have increased by an additional 25 percentage points in the aftermath of the political upheaval in August 2021 (UNDP, 2021).

Since 2001, Afghanistan has constantly experienced waves of conflict and violence, state capacity for revenue mobilisation has been extremely weak making the country extensively dependent on foreign aid (on average, around 85 percent of total public spending, on- and off-budget, was financed by foreign assistance),[3] weak institutions failed to curb pervasive corruption and vested interests, not only the resources but also the policymaking processes were subject to elite capture,[4] and social divisions did not allow for democratic processes (such as elections) to prevail, making the country suffer from the waves of political instability and regime change. These features make Afghanistan a perfect example of a fragile state. A 2018 report by the LSE-Oxford Commission on State Fragility, Growth and Development identified the following symptoms for fragility (LSE-Oxford, 2018):

1. A security threat from organised non-state violence;
2. The government lacks legitimacy in the eyes of many citizens;
3. The state has weak capacity for essential functions;
4. The environment for private investment is unattractive;
5. The economy is exposed to shocks with little resilience; and
6. Deep divisions in the society.

Afghanistan's development story could simply be viewed as a typical case of a low-income, fragile state with pre-disposed poor institutions, which goes through episodes of failure and success throughout its development journey. This report therefore considers fragility to be an important aspect of the political

[1] Based on Biruni Institute staff estimate.

[2] Security transition consisted of the transfer of security responsibilities from the NATO-led International Security Assistance Force (ISAF) to the Afghan National Security Forces (ANSF), as most of the NATO troops were withdrawn from the country. The transfer of responsibilities was gradually completed over the course of three years, starting in 2011 and concluding in 2014. During this period, NATO troops in Afghanistan were drawn from more than 130,000 troops in June 2011 down to less than 15,000 troops by end-2014.

[3] Based on Biruni Institute staff estimate.

[4] See for instance Delesgues (2007), Savage et al. (2007), Gardizi et al. (2010), Alexander et al. (2012), Mehran (2013), SIGAR (2016), Harmer et al. (2017), Fitrat (2018), and Bak (2019).

economy environment in Afghanistan. Not only it develops a policy framework (in Section 3) that is informed of the fragility aspects, it also undertakes an inquiry into the relationship between poverty and other variables of interest such as conflict, foreign aid, and opium production.

Previous studies that inspected the relationship between poverty and conflict in Afghanistan have found that poverty (as measured by consumption per capita) tended to be lower in provinces with higher levels of conflict (Floreani et al., 2019). While this puzzling result could be explained by the fact that the level of conflict across provinces was correlated with foreign aid disbursements, with the latter more than offsetting the negative impact of conflict on poverty (Floreani et al., 2019), one can still not explain why poverty failed to decrease overall between 2007 and 2013 – the period during which foreign aid inflows to Afghanistan consistently increased and reached record levels. Instead, poverty had further risen from 33.7 percent to 39.1 percent during that period.

This report attempts to better understand and explain this paradox. It undertakes a microeconomic appraisal of poverty in Afghanistan by studying the nature and pattern of poverty and identifying the correlates of poverty at household, community and regional levels, before proposing a number of policy solutions informed by the political economy context in the country. To do so, it compiles two rich datasets: (1) a pooled cross-sectional dataset at household level, drawn from four waves of household surveys from 2007 to 2019; and (2) a panel dataset at provincial and district levels, which combines data on conflict, budget spending, aid disbursements, access to basic services (number of health facilities and schools per district), displacement, opium production, and natural disasters.

The statistical and econometric investigations in this research allow us to: (i) describe the average characteristics of Afghan households living in poverty; (ii) identify household-, community- and regional-level correlates of poverty; and (iii) understand the nature of shocks encountered by the poor as well as the strategies they adopt to cope with these shocks. The novel contribution of this research to the literature is that it undertakes a multi-level analysis of the correlates of poverty, combining household-level and regional-level (district or province levels) information drawn from four waves of nationally representative household surveys (i.e. 2007, 2011, 2016 and 2019) and other data sources including off-budget aid – a task that is unprecedented.

The research reveals interesting results. They show that, as expected, households with a "female" head are more vulnerable than others to falling in poverty. Roughly, female-headed households are 2 to 3 times more likely to be poor than households with a male head, depending on the specification. Household size and higher dependency ratio are also associated with higher probabilities of being poor. However, living in a rural area is not statistically associated with the likelihood of poverty. This is because the rise in national poverty has largely been driven by increases in urban poverty since 2011, and particularly since 2016. Poverty increased in urban milieus due to growing conflict in the country resulting in large waves of internal displacement, growing return migration, as well as deteriorating labour market outcomes in urban centres.

The estimation results also show that access to basic services (i.e. health and education) is a strong correlate of poverty in Afghanistan. Households living in a community with no health facility face higher probabilities of being poor compared to those living in a community that is endowed with a health facility. Similarly, communities with no primary or secondary school are more likely to have higher rates of poverty. However, we do not find statistically significant results for the association between other types of infrastructure, such as access to paved roads, and poverty.

Education turns out to be one of the most important correlates of poverty in Afghanistan: (1) education attainment substantially reduces the probability of being poor for the household (e.g., households whose heads have tertiary education are 2.5 to 3.33 times less likely to be poor than those with no

educated heads); (2) provincial districts where average household spending on education is higher – driven by economic or cultural factors – are more likely to experience lower rates of poverty; and (3) an increase in public investment in primary and secondary schools is associated with lower probability of being poor for the district residents.

The sector of economic activity or the source income is also a strong predictor of poverty. Households who rely on agriculture as their main source of income face higher likelihoods of being poor, than those who draw their main income from manufacturing, services and trade sectors. Remittances are also a source of income that prevents households from falling into poverty more effectively than agricultural incomes. Furthermore, households with diversified sources of income (with two or more different sources) face lower probabilities of being poor than those who rely on a single source of income.

On the relation between conflict and poverty, our results suggest that it is not only the 'intensity' of conflict that matters for poverty, but also the 'type' of conflict. Communities that are exposed to the type of conflict that leads to civilian casualties (in contrast to 'military causalities') are more likely to be poor than those exposed to conflicts causing exclusively military fatalities. Typically, the former type of conflict generally consists of non-conventional military actions (i.e., attacks involving improvised explosive devices) in dense urban milieus. By contrast, conventional military actions, however, may not have had adverse impact on poverty, because the provinces that saw higher military operations in the past two decades also benefited from higher security-related aid disbursements and budget spending, which more than offset the detrimental effects of conflict.

Finally, foreign aid flow into a province has been a strong correlate for household poverty in that province. Our results show that a 1-standard deviation increase in foreign aid to a province is associated with a 6.5-percentage point reduction in the probability of being poor for the households residing in that province.

The poor in Afghanistan are also much more likely to resort to harmful coping strategies, which further increases their vulnerability in the future. Our results show that having been exposed to a food price shock, an income or wealth shock, or a health shock in the previous year increases the likelihood of being poor in the current year. Following a shock, the poor are 8-percentage point more likely to borrow and increase their debt, 7-percentage point more likely to cut their expenditures, and 6-percentage point more likely to reduce their diet and food intake than the non-poor.

A Renewed Approach to Poverty Alleviation in Afghanistan

A review of policy failures in the fight against poverty in Afghanistan reveals a number of lessons that must be reflected in devising future poverty alleviation strategies:

- Growth-centric strategies ignored poverty alleviation as a first-order objective;
- A coordinated and concerted approach to poverty reduction was mostly absent;
- Fragility was largely ignored in policy decisions and economic strategies until very recently;
- Poverty alleviation efforts were untargeted and broad, with limited effectiveness;
- Political economy aspects hindered execution of pro-poor policies.

Drawing on the above lessons, as well as on the results of our econometric analysis, we develop in Section 3 of this report a policy framework that aims to tackle poverty in Afghanistan while being cognizant of the economic and institutional context in the country. The framework not only emphasises a set of relevant economic and structural policies for poverty reduction, but also suggests some institutional arrangements to ensure increased effectiveness in development efforts and policies.

The policies introduced in the framework are selected based on the criteria that (i) they are expected to yield largest poverty alleviation impact in the short, medium and long terms; (ii) they effectively address the most important correlates of poverty in Afghanistan as identified by the econometric analysis in Section 2; (iii) they are expected to generate more 'inclusive' outcomes, and not necessarily maximised growth impact; and (iv) they are sensitised to the drivers of fragility in the country. As part of the economic and structural policies, the following measures are proposed for addressing poverty in the short, medium and long terms:

1. Short-term: Emergency programmes

Political developments in the second half of 2021 have led to an economic collapse, in which domestic demand has considerably weakened. Not only have private investment and household consumption fallen, public spending has also declined as a result of interruption in foreign aid inflows. Despite emigration of thousands of people out of the country, anecdotal evidence suggests persistent and rising unemployment as job opportunities have shrunk following the economic crisis. A liquidity crisis in the banking sector has further exacerbated the situation.

Given the intensity of the crisis, it is therefore vital to roll out emergency programmes to provide urgent income support to poor populations. Public works (such as 'cash for work' or 'food for work') and 'unconditional cash transfer' programmes can be rolled out, as they are proven to be effective in providing immediate relief to poor and vulnerable households and increasing resilience. While the on-going liquidity crisis in the banking sector may restrict a large-scale roll-out of cash transfer programmes, they should still be prioritised over in-kind assistance (i.e., food distribution) in selected areas (and in situations) where it is feasible. Cash transfer programmes must not only be seen as humanitarian relief operations; they can be used as a two-pronged policy tool to both generate income support and to improve liquidity in the economy.

2. Medium-term: Agriculture-led growth

Pursuing an agriculture-led growth policy could be the most effective poverty alleviation strategy in the medium term in Afghanistan. Data and evidence suggest that: i) agricultural activities increase resilience for the Afghan poor; ii) gains from agricultural growth are likely to be more equally distributed in the economy, resulting into a more 'inclusive' economic growth; iii) agriculture-led growth can be more sustainable over the long-term; and iv) increases in agriculture productivity has larger leverage to enhance growth and increase employment.

Given the likelihood of reduced financial resources in the foreseeable future (as it is already the case), a more focused and targeted strategy to improve agriculture productivity is critical. Rather than trying to pursue a full-fledged intervention in the sector, it may prove more realistic and effective to focus the efforts on a few 'priority' crops and their respective value chains (World Bank, 2014). Based on the criteria such as food security, potentials for import substitution, leverage for job creation and value addition, and potential for productivity catch-up, the following crops/activities should be prioritised for targeted interventions:

(i) irrigated wheat,
(ii) horticultural crops (fruits, nuts, and vegetables), and
(iii) intensive livestock production (milk, eggs, and poultry meat) in peri-urban areas.

Such a targeted strategy would make the most effective use of financial resources available to raise agriculture productivity in the country. Enhancing agricultural growth in Afghanistan will consist in improving irrigation water conveyance, area expansion in both irrigated and rain-fed agriculture, public

investment in extension services, and reforms in land policy. Development of supply chains can be fostered by supporting access to credit, marketing and technology.

3. Long-term: Human capital and managed labour migration

Given the strong evidence provided by our econometric analysis on the correlation between education and poverty, we can safely argue that education is one of the most effective strategies to fight poverty in the long run in Afghanistan. Currently, nearly 70 percent of the working-age population is illiterate, and – despite impressive gains in human capital in the past two decades – the overall education attainment gap and the gender gap still remain very large.

A crucial element in improving education outcomes in developing countries is the long-term commitment to sustainable allocation of fiscal resources to the education sector. In Afghanistan, the share of budget expenditure for education declined from 17.5 percent in 2010 to 7.8 percent in 2019. As it is often the case in most countries, spending on education is generally overlooked due to various political economy reasons. However, to improve educational outcomes in the long run, especially in Afghanistan where attainment gaps are already too low, allocating a sufficient share of budget resources to the education sector, as well as ensuring that it is maintained over the years, is necessary.

Another challenge for improving the human capital in Afghanistan is the youth bulge and the growing labour force. Every year, about half a million entrants join the labour force in Afghanistan, expecting employment. Already, 39.5 percent of the labour force were either unemployed or underemployed in 2016-17 (CSO, 2018) and this figure might have doubled by now. Going forward, even in very optimistic scenarios for economic growth, the Afghan economy will never be able to produce sufficient jobs and employment for the growing labour force in the foreseeable future.

A managed labour migration might be the best alternative to provide employment opportunities for the growing labour force. Establishing legal channels through which Afghans could migrate to work abroad, and return back freely, would maximise the economic benefits of migration (i.e. sustained remittances, skills transfers, better wages, etc.). The current high labour demand in the Gulf countries and in Turkey present opportunities for managed labour migration.

Institutional Arrangements: Coordination of Development Interventions

Since the collapse of the Islamic Republic and the political regime change, a substantial portion of technical and professional cadre – who were trained in the past two decades – have fled the country. Line ministries now face stark challenges of limited capacity in the design, execution and monitoring of development projects. When – or, if – development assistance resumes, there will be literally no technical capacity in line ministries to engage with the donor agencies and international institutions. To fill in the gap, the donor agencies will need to rely – once again – on the pool of NGOs to deliver the development assistance, as they did two decades ago in Afghanistan.

In the early 2000s, almost all development assistance in Afghanistan was disbursed and executed 'off-budget'. Donor agencies, international institutions, and NGOs directly recruited the limited pool of professional and managerial talent in the country outside the public sector, offering competitive salaries that were several times higher than the civil service wages. In a matter of few years, a 'parallel' civil service (also called, 'second' civil service) emerged in the country. The huge 'wage gap' between the two civil services undermined the development of an efficient and qualified "official" civil service and resulted in inefficiencies and redundancies in aid expenditures.

This time again, a similar situation may risk getting repeated. As there is no other alternative, and given the circumstances, the de-facto administration in Kabul must not restrict off-budget aid disbursements

by the donors and must not restrict the operations of the NGOs. Nonetheless, the donor community must at least ensure that:

a) some level of coordination is put in place among the donor agencies and international institutions to prevent redundancies and increase complementarities in development interventions;
b) future development interventions in Afghanistan are aligned across-the-board with a uniform development strategy for the country (for instance, the policy framework proposed in this report can be used as a guiding strategy for poverty alleviation in Afghanistan); and
c) more inclusive and formal mechanisms are established so that not only members of the donor community but also local civil society organisations, including NGOs, think tanks and sub-national community entities, can engage in.

Any inclusive coordination mechanism must be equipped with:

(i) proper information sharing channels through which the civil society organisations, such as NGOs, think tanks and sub-national community entities, can have a transparent oversight on the use of development assistance funds, and
(ii) bottom-up channels of feedback transfer so that local communities and beneficiaries of development projects can contribute to increase the efficiency in development projects.

These features for an inclusive coordination mechanism will enhance the development impact and the 'value-for-money' of the donor funds.

This proposal does not call for the de-facto Taliban administration, to have an enhanced role in the proposed coordinating body, due to both lack of technical capacity within the appointed political leadership in line ministries, as well as social grievances that may accumulate. Instead, this proposal calls for a more pro-active engagement of civil society actors in the programming and oversight of development projects, assuming that it will form positive public sentiments (through a sense of common ownership of aid resources) which could, in turn, reduce grievances and strengthen social solidarity in the medium term.

II. Methodology: Data Sources

This research relies on secondary data analysis, including statistical and econometric analyses of household surveys, administrative data, and other socio-economic data, to better understand the patterns and drivers of poverty in Afghanistan. For the purpose of this study, two sets of datasets were compiled: a rich panel database at district and province levels for the period of 2006-2020, and a pooled cross-sectional dataset at household level with four temporal points, i.e., 2007-08, 2011-12, 2016-17 and 2019-20.

The first set of data compiled for this research includes district- and province-level panel data on health facilities, schools, conflict, displacement, natural disaster, opium production, foreign aid, and budget spending. The source, time coverage, and description of these data are presented in Table 1.

Table 1: Description of district- and province-level panel data

Data	Unit Record Level	Source	Indicators/Description	Time Coverage
Schools	District	Education MIS, Ministry of Education	Number of schools (primary, secondary and tertiary)	2012 to 2020
Health facilities	District	Health MIS, Ministry of Health	Number of health facilities	2006 to 2020
Conflict	District	Uppsala Conflict Data Program (UCDP) GED ver. 20.1 database	Number of civilian and total casualties	2006 to 2019 (annual)
Natural Disasters	District	UN-OCHA	Number of affected families; Number of houses damaged; Number of displaced families (as a result of flood, avalanche, landslide, and earthquake)	2012 to 2020 (annual)
Displacement	District	UNHCR and UN-OCHA	Number of displaced individuals and displaced families	2012-2015 (lumped); 2016 to 2020 (annual)
Opium	Region/ District	UNODC	Volume of opium production (in metric tonnes - region); Land area under poppy cultivation (in hectares- district level)	2006 to 2019 (annual)
Development Aid	Province	USAID	USAID off-budget aid disbursements	2010 to 2020 (annual)

Budget spending	Province	AFMIS database (Ministry of Finance)	Total budget expenditures (incl. recurrent and development budget spending)	2007 to 2019 (annual)

Until 2021, foreign aid to Afghanistan was composed of security aid and civilian (development) aid, both of which were delivered through different arrangements: (i) off-budget aid, which was directly disbursed and managed by the donors, outside the government's budget; and (ii) on-budget aid, which was principally disbursed through the budget mechanism, and directly executed by line ministries. Budget expenditure numbers, as reported by the Ministry of Finance and which come from the AFMIS database, only included on-budget security and civilian aid. However, there is no comprehensive reporting of all off-budget aid disbursements in the country, particularly for the civilian/development off-budget assistance. Although the Ministry of Finance established a Development Assistance Database (DAD) which reported on donor commitments and disbursements, the reported numbers on actual 'disbursements' were often incomplete.

Therefore, we chose to use the aid disbursement numbers of the largest donor to the country, i.e. the United States Agency for International Development (USAID), as a 'proxy' for the total civilian foreign aid inflows to Afghanistan. Biruni Institute staff estimate that United States' development assistance has accounted roughly about two-thirds of all development assistance (civilian aid) to the country between 2002 and 2020.

The second set of data prepared for this research includes household-level data compiled from nationally representative household surveys which were implemented every 2-3 years in the country. These household surveys, called National Risk & Vulnerability Assessment (NRVA), Afghanistan Living Conditions Survey (ALCS), or Income, Expenditure and Labour Force Survey (IELFS), have generally collected data on household demographics, housing conditions, income/ expenditures, labour, education, health, migration, shocks and coping mechanisms, and village-level characteristics. Each survey was implemented over the course of a full year (i.e., covering all four seasons), usually starting in April of a given year and ending in March of the subsequent year. In total, there are seven household surveys implemented between 2005 and 2020, of which only four surveys, namely NRVA 2007-08, NRVA 2011-12, ALCS 2016-17, and IELFS 2019-20, have had detailed modules on household expenditures and food consumption that would allow calculating household consumption and poverty lines.

Table 2: Description of data in the pooled cross-sectional dataset for households

Data	Type	Indicators/ Variables
Household characteristics	Demographic	Household size (number of family members); Age of HH head; Marital status of HH head; Female-headed households; Urban-Rural settlement; Literary & education;
	Economic profile	Sector of activity; Type of employment; Number of economically active HH members;

		Dependency ratio; HH's main income source; Spending on education; Spending on health;
Community-level characteristics	Development	Access (and distance) to drinking water; Access to electricity; Access (and distance) to road; Access (and distance) to food market; Schools (primary/secondary, boys/girls) in the village; Existence of government projects (NERAP or NSP) in the village; Average wage level in the district;
	Geographic topography	Plain landscape, Valley, Mountainous.
Shocks	HH-specific (idiosyncratic) and community-level (covariate) shocks	Frequency of negative shocks; Types of shocks; Coping strategies. (in total 24 dummy variables)

These surveys have a sample size of roughly 20,000 households each and are representative at the province level. The pooled cross-sectional database compiled for the purpose of this research contains data for about 80,000 households for the period from 2007-08 to 2019-20. Table 2 presents the indicators and variables computed across the four selected household surveys and included in the pooled cross-sectional database with around 80,000 observations.

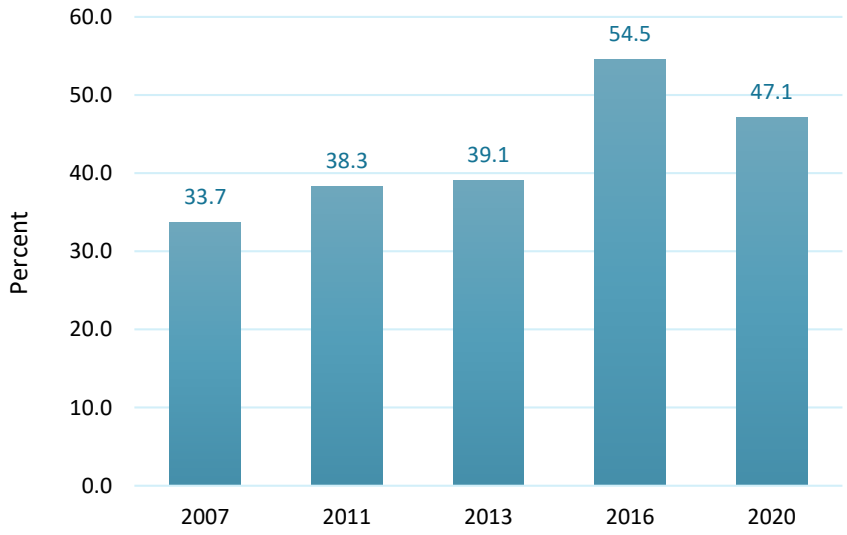
All datasets, including the datasets presented in Table 1 and the household surveys, were harmonised using latest administrative divisions for provinces and districts.

Section 1: Poverty in Afghanistan

A. Economic growth and poverty

The Afghan people have become poorer and more vulnerable to falling into poverty over time. National surveys suggest that one in every two Afghans is poor. Poverty headcount ratio, which is the proportion of population that is poor, increased from 33.7 percent in 2007-08 to 54.5 percent in 2016-17 before moderating to 47.1 percent in 2019-20. Poverty which is usually not a very volatile statistic in most countries has experienced significant changes in Afghanistan in recent years. It increased by more than 16 percentage points in mere 5 years between 2011 to 2016. This meant that during this brief period, more than 3 percent of the population fell into poverty each year. Similarly, poverty in the next 4 years (from 2016 to 2019) reduced by more than 7 percentage points, implying that annually approximately 2 percent of the people transitioned out of poverty. The high volatility in poverty headcount ratios indicate that a large section of the Afghan population living just above the poverty line is extremely vulnerable to any type of shock. In essence, they lead similar lives to those Afghans who are officially classified as poor.

Figure 1: Poverty headcount ratio, 2007-2020



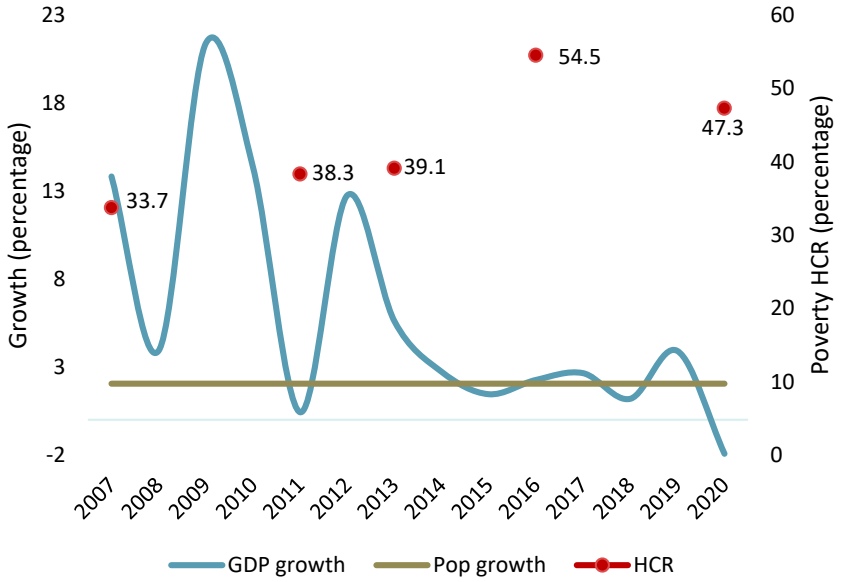
Sources: NRVA 2007-08, NRVA 2011-12, ALCS 2013-14, ALCS 2016-17, and IELFS 2019-20

The increase in poverty since 2015 was not entirely unexpected, as the population growth rate exceeded the pace of economic growth. Economic growth has been extremely volatile in Afghanistan. An economy that is overwhelmingly engaged in primary sectors, heavily dependent on foreign aid, and faces large and continuous human-induced and natural shocks, tends to be volatile. Since 2007, economic growth has fluctuated between a high of 21.4 percent to a low of negative 1.9 percent. Economic growth was particularly strong, in double digit figures, in 2007 (13.8 percent), 2009 (21.4 percent), 2010 (14.4 percent) and 2012 (12.8 percent). However, growth was dismal in the other years, averaging just around 2.2 percent. Economic growth averaged at about 9.5 percent between 2007 and 2014 but declined drastically to an average growth rate of 1.6 percent from 2015 to 2020. Most importantly, this average growth rate of 1.6 percent for the last five years has been lower than the annual population growth rate, which is at 2.1 percent. Population growth outstripping income growth indicates a decline in per-capita income, hence the increase in poverty.

During its period of high economic growth, Afghanistan's growth pattern was not pro-poor. Despite a period of high growth from 2007 to 2014 averaging just below 10 percent, poverty continued to increase. It is a clear indication that the benefits of higher economic growth did not accrue to the poorer sections of the population who continued to be worse-off despite the economy registering higher growth rates. This is not a very uncommon phenomenon and is usually witnessed in most countries as their economies develop. Populations that start off with better initial conditions are usually the first to take advantage of an expanding economy. In Afghanistan, an increase in inequality led to an increase in poverty despite the economy experiencing high economic growth. The Gini coefficient, which is an indicator of income inequality, registered an increase from 29.7 in 2007-08 to 31.6 in 2011-12. There could be many context-specific plausible reasons for this observed increase in inequality and the inability of poorer sections of the population to take advantage of higher economic growth. Some estimates suggest that poverty would have declined by as much as 4.4 percentage points between 2007-08 and 2011-12, had inequality remained unchanged (MoE, 2015). A joint report by the Government of Afghanistan and the World Bank attributed this increase in inequality to rising inequality in three regions – the North-East, the East, and the West-Central (MoE, 2015). The reasons explaining the rise in inequality in these regions were identified as: (1) no increase in international aid spending, and (2) frequent occurrence of weather-related shocks (Ministry of Economy, Afghanistan & World Bank, 2015). However, it is clear that growth was not pro-poor and the benefits of economic growth did not trickle down enough to poorer populations to reduce poverty.

Poverty dynamics have been confounding since 2015. As economic growth declined significantly since 2015, falling below the population growth rate (see Figure 2), a large section of the population fell into poverty. Poverty headcount ratio increased significantly to 54.5 percent in 2016. However, even as growth continued to decline further, surprisingly the number of poor declined to 47.1 percent in 2019. What could possibly explain this divergence? A plausible reason could be that the significant difference in the licit and illicit economy could be driving this divergence between economic growth and poverty. While national account statistics (as expected) tends to poorly capture the illicit economic activity, household surveys record consumption levels irrespective of the nature and source of income.

Figure 2: Poverty, population and economic growth in Afghanistan (2007-2020)



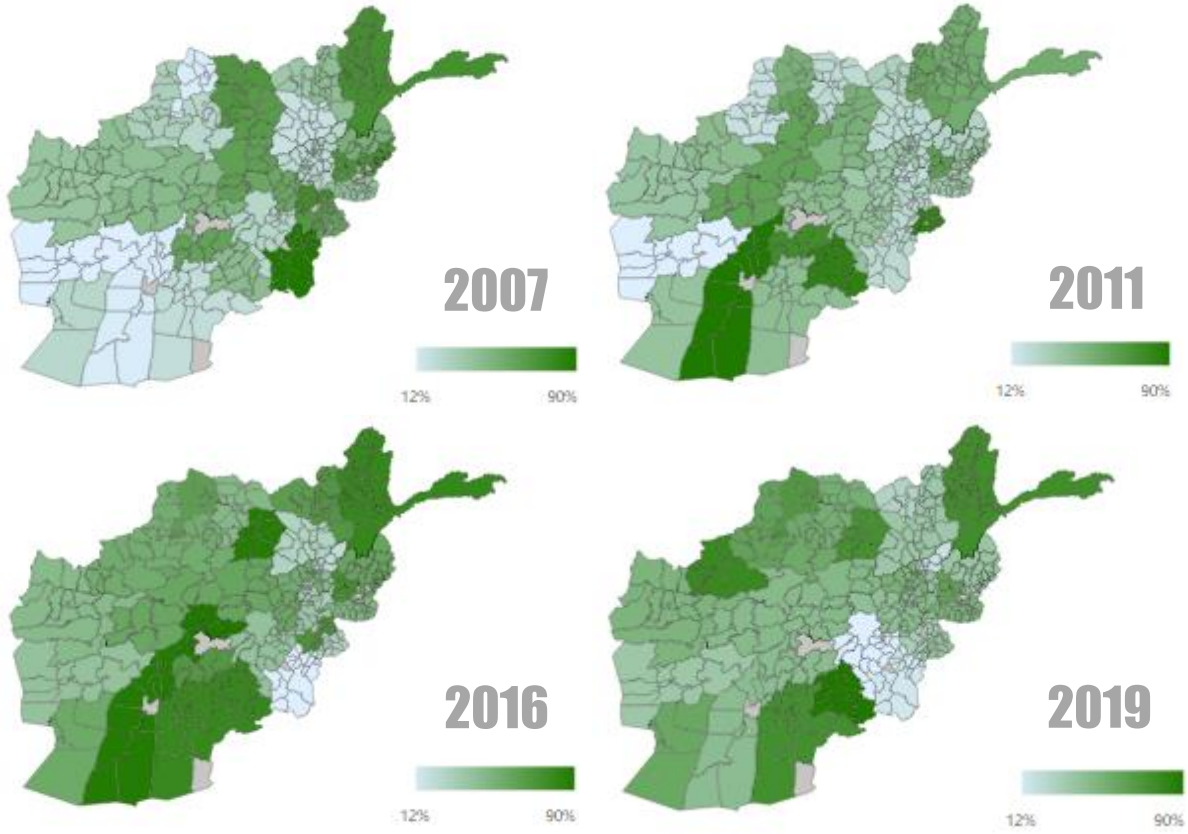
Source: NSIA

B. Poverty dynamics in Afghanistan

Poverty is usually measured using either household consumption or household income. Since food is the most basic of human needs, a calorie intake of 2,100 calories is used as a threshold for distinguishing the poor from the non-poor. This threshold of 2,100 calories from the local consumption basket, is then priced in monetary terms to determine the food poverty line. Non-food poverty line is the monetary consumption expenditure on non-food items of the population that consumes at food poverty line threshold. This standard method allows spatial and inter-temporal determination of poverty within a country and spatial comparisons; within and across countries. However, there is much difference in what it means to be a poor person in different countries.

In Afghanistan, poverty has increased over time but its pattern evolved in different periods. As mentioned earlier, the national poverty headcount ratio has increased steadily over the years from 33.7 percent in 2007-08 to 47.1 percent in 2019-20. However, the pattern in which poverty increased has differed considerably in the different intervening periods. Figure 3 shows how regional distribution of poverty has changed over time across the country.

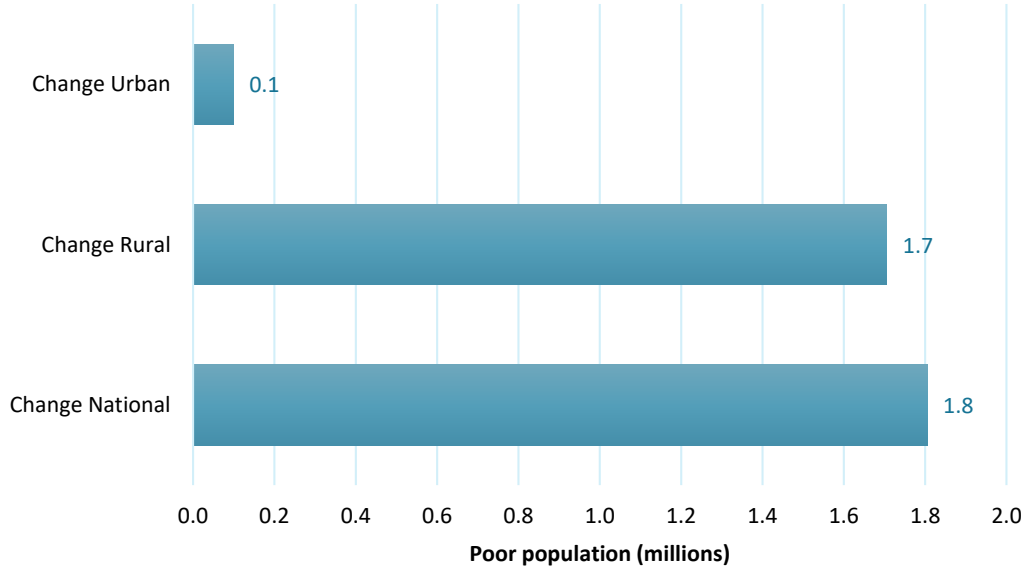
Figure 3: Provincial variation in poverty headcount ratio, 2007 to 2019 (percentage)



Source: Visualisation produced using NSIA data

Between 2007 and 2011, poverty increased by 4.6 percentage points from a headcount ratio of 33.7 percent to 38.3 percent. In terms of number of Afghans, it meant that about 1.8 million Afghans fell into poverty over this four-year period. The increase in poverty during this period was almost entirely due to an increase in poverty in rural areas. The contribution of rural poverty to the overall 4.6-percentage point change in national poverty was 94.5 percent, or 4.3 percentage points. Increase in urban poverty contributed only 5.5 percent, or merely 0.3 percent points.

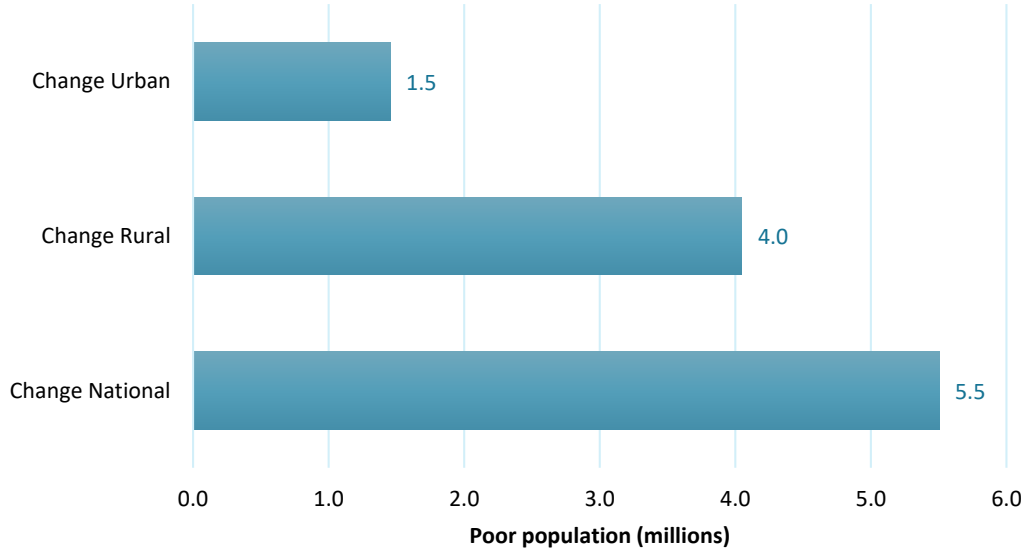
Figure 4: Urban-rural contribution to change in poverty, 2007 to 2011, in million people



Source: Authors' calculations based on NSIA data

Over the course of the next 5 years, from 2012 to 2016, the sharp increase in poverty was widespread with significant increase in urban poverty. During this period, poverty spiked by a steep 16.2 percentage points, rising from 38.3 percent in 2011-12 to 54.5 percent in 2015-16. Consequently, more than half of Afghanistan's population fell into poverty. Increase in poverty in rural areas still was the predominant contributor to overall increase in poverty, accounting for 73.6 percent or almost 12 percentage points to the overall 16.2 percentage point change in national poverty. But in this period, unlike the last period of 2007-2011, even urban poverty increased significantly. As shown in Figure 5, urban poor population increased by 1.5 million people, contributing about 26.4 percent or 4.3 percentage points to the increase in national poverty over the period between 2011 and 2016. Therefore, poverty became a much more widespread phenomenon and agnostic to the location of the household.

Figure 5: Urban-rural contribution to change in poverty, 2011 to 2016, in million people

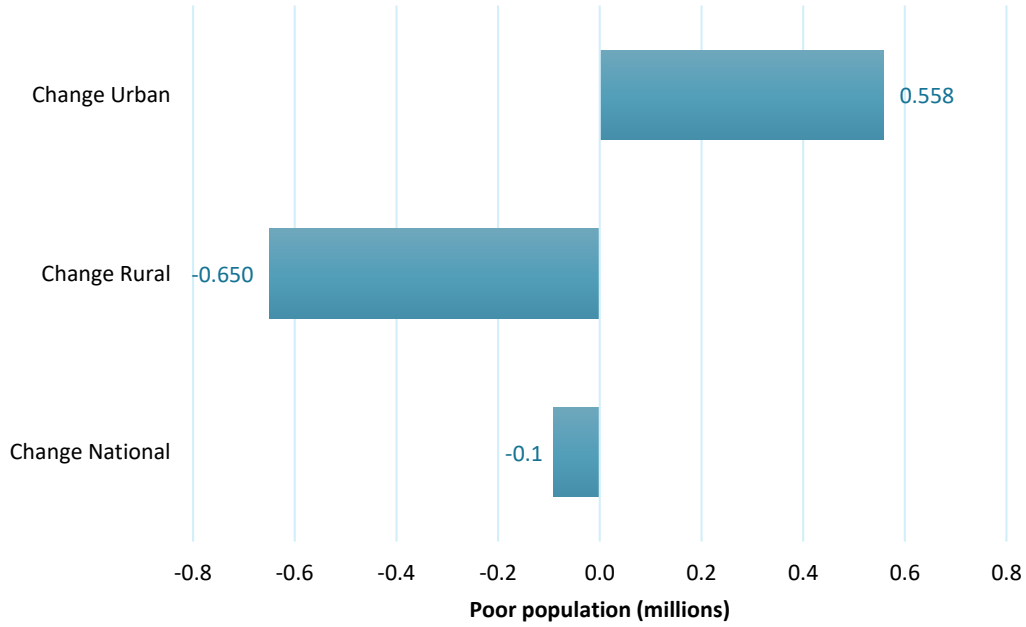


Source: Authors' calculations based on NSIA data

From 2016 to 2020, the change in poverty was surprisingly driven by a sharp rise in urban poverty and an even larger decline in rural poverty. National poverty declined by 7.4 percentage points falling from 54.5 percent in 2015-16 to 47.1 percent in 2019-20. However, the pattern of decline was unique and significantly different from trends noticed in earlier periods. This overall decline of 7.4 percentage points in national poverty was the net result of a sharp rise in urban poverty (52.8 percentage points, or 0.6 million people), offset by an even larger decline in rural poverty (45.4 percentage points, or 0.65 million people).

Poverty dynamics in the five years since 2016 were not only diametrically opposite from the observed trends but also entailed extremely large changes over a very short time period. Poverty increase in urban milieus between 2016 and 2020 could be roughly explained by increasing internal displacement and return migration, as well as deteriorating labour market outcomes in urban centres due to the Covid-19 pandemic (World Bank, 2021). The large increase in urban poverty after 2016 may also be seen as the consequence of a previous rise in rural poverty that might have driven thousands of rural Afghans to move to urban centres. Despite favourable trends in precipitation levels and in agriculture productivity over 2016-2019 which may have contributed to poverty reduction in rural areas (World Bank, 2021), one would still face a lack of sufficient and comprehensive evidence to justify the substantial decline in rural poverty between 2016 and 2019.

Figure 6: Contribution to change in poverty 2016 to 2019, in million people



Source: Authors' calculations based on NSIA data

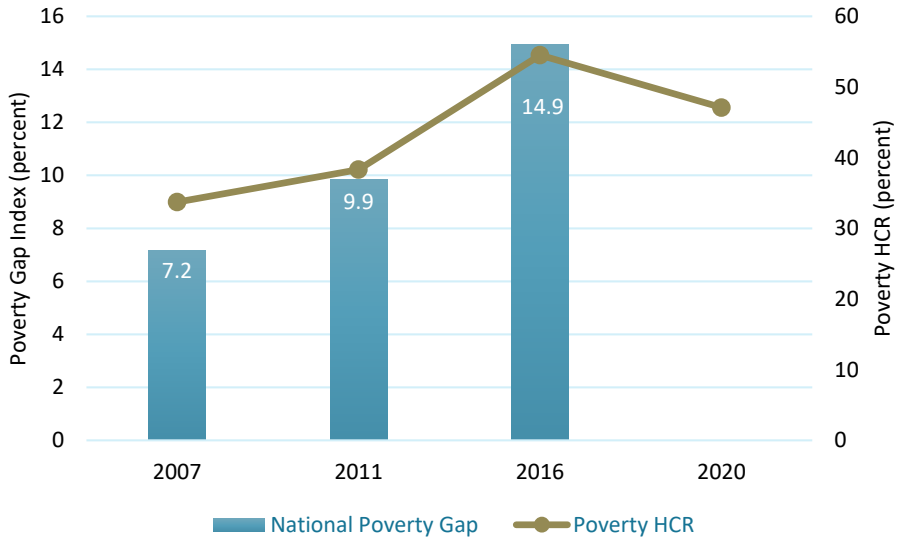
It is pertinent to look at other measures of poverty, besides the headcount ratio, to better understand the poverty dynamics. Poverty headcount ratio only identifies who is poor based on a defined poverty line. While the poverty headcount ratio is a simple and effective measure to clearly communicate the level of poverty, for more analytical insights especially for designing a policy for poverty alleviation additional poverty measures, such as the Poverty Gap Index, are used.

The Poverty Gap Index captures the average depth of poverty, i.e., how much lower is the consumption of the poor on average from the stated poverty line. The Poverty Gap Index has useful policy applications, because it clearly provides the average amount of income transfer that is required to bring

the consumption of each poor person up till the poverty line consumption threshold. Figure 7 below shows the transition in the Poverty Gap Index in Afghanistan over time. The poverty gap more than doubled, from the poor consuming about 7 percent below to the poverty line in 2007, to almost 15 percent consumption below the poverty line in 2016.

It is pertinent to understand what contributed to the increase in the national poverty gap. Specifically, quantifying the relative contributions of: (i.) increase in severity of poverty for those who were already poor, and (ii.) additional population falling below the poverty consumption threshold; to the total increase in national poverty gap. Over the 16-year period, roughly three-fourth of the total increase in the Poverty Gap Index was due to further deterioration in the living conditions of the already poor and about one fourth of the increase was due to additional Afghans falling into poverty. In other words, approximately 74-percent increase in the depth of poverty (Poverty Gap Index) was due to a further deterioration in the consumption level of already poor populations and 26-percent increase due to new population falling below the poverty line.

Figure 7: Poverty HCR and Poverty Gap Index, 2007-2020



Source: NRVA 2007-08, NRVA 2011-12, ALCS 2016-17, and IELFS 2019-20.
Note: National Poverty Gap figures are those reported by the World Bank based on the above sources. Poverty gap estimate for 2020 has not been reported.

C. Regional pattern of poverty

The spatial transition of poverty in provinces varied significantly over time. Between 2007 and 2011, the southern provinces bordering Pakistan witnessed the largest increases in poverty. As shown in Figure 8, Helmand was by far the largest contributor, accounting for more than one-third of the increase in national poverty rate. In contrast, poverty generally reduced or increased marginally in central and northern provinces. Kabul being the largest urban centre in the country witnessed only a marginal increase in poverty during the period of 2007-2011.

Post-2011, urban poverty picked up, with Kabul representing the largest contributor to the increase in national poverty. As mentioned earlier, in the period from 2011 to 2016, increases in poverty were driven by rising poverty in the urban milieu. In fact, a major share of these urban poor were residents in Kabul. In the period post-2016, urban poverty arose even further. Kabul witnessed a significant increase in poverty, contributing a 54-percentage points increase to the overall change in poverty. It is plausible that the sharp rise in poverty in Kabul was due to: (i) an increased influx of internally displaced people

seeking economic opportunities, and (ii) residents from other parts of the country seeking to escape insecurity as central government's territorial control outside Kabul shrank.

Figure 8: Provincial contribution to change in poverty 2007 to 2011, percentage points

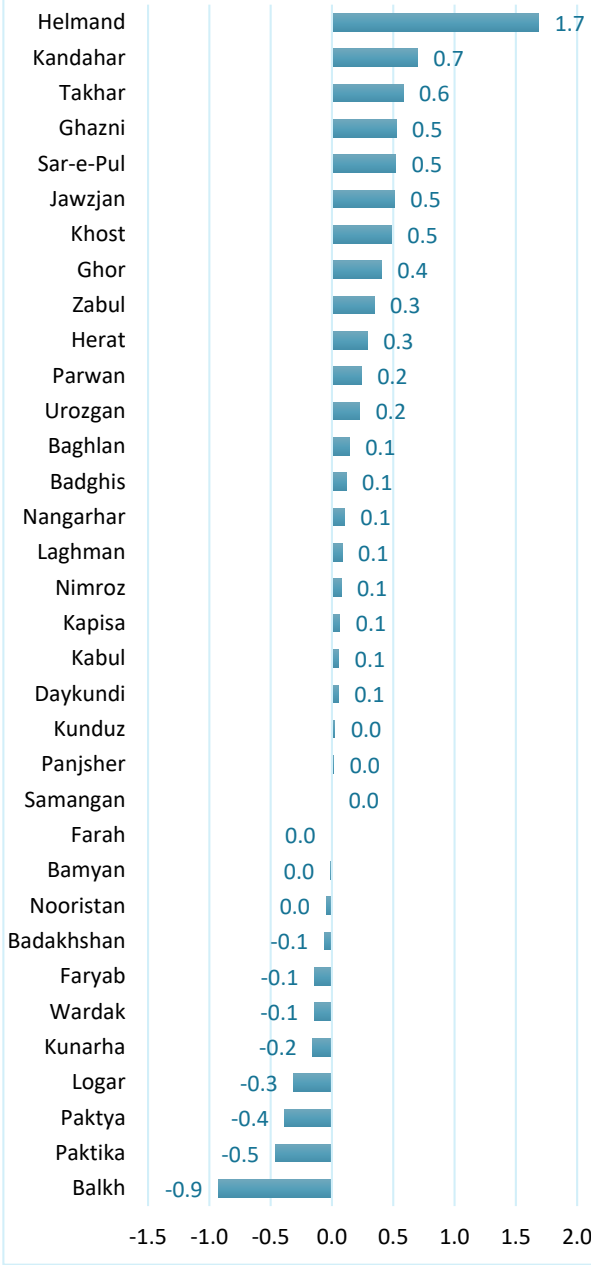
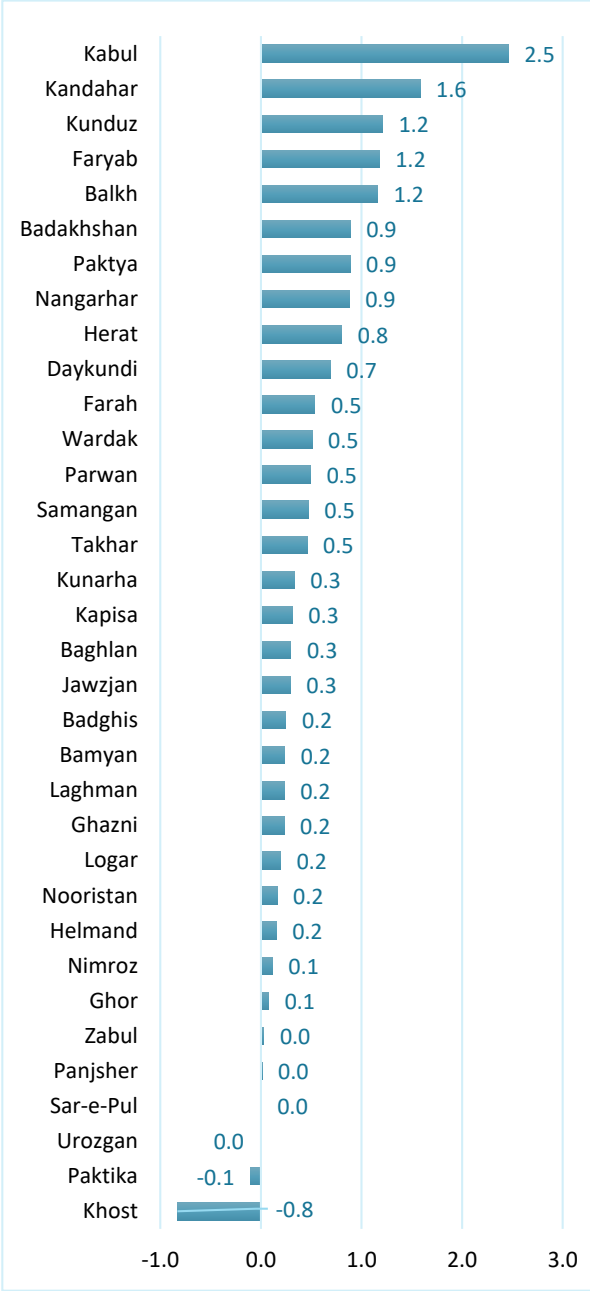


Figure 9: Provincial contribution to change in poverty 2011 to 2016, percentage points



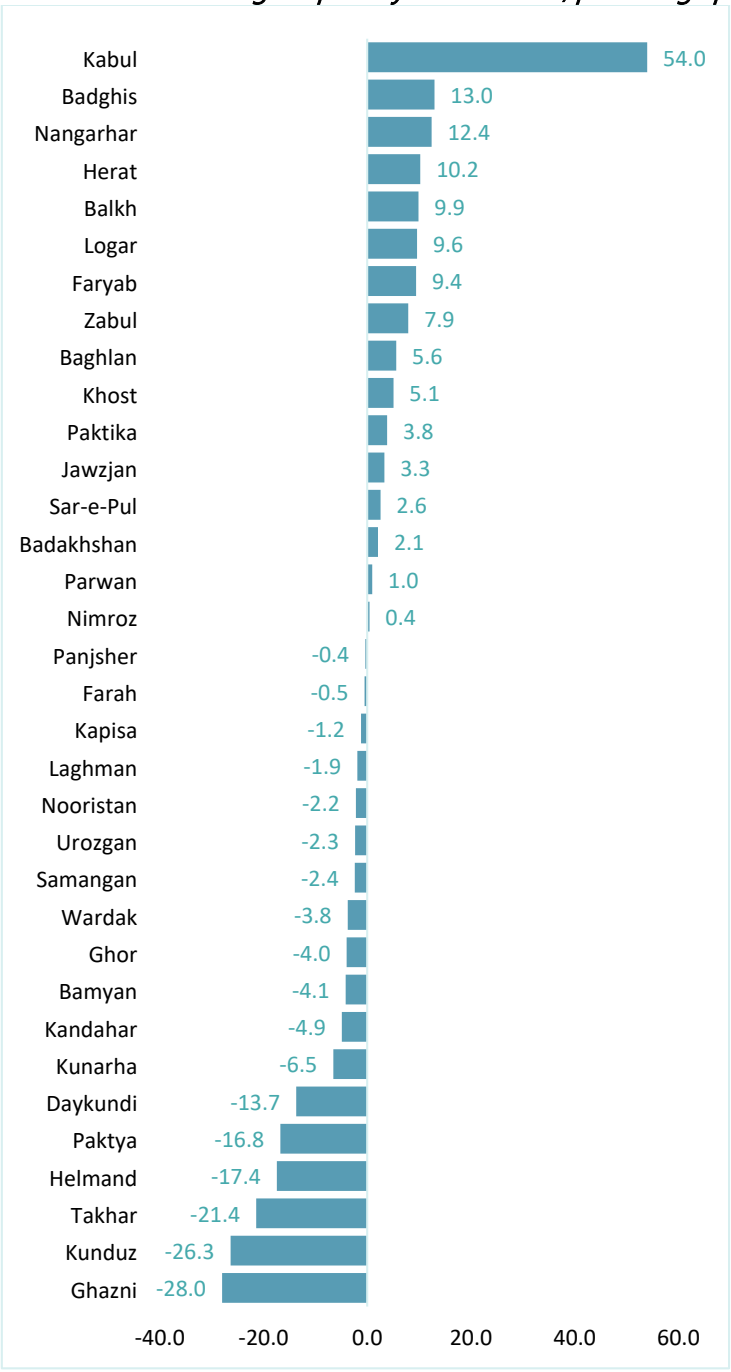
Source: Authors' calculations based on NSIA data

In the period from 2016 to 2020, spatial variations in poverty across provinces were substantial, as shown in Figure 10. While one may argue that these variations were driven by changes in the urban-rural composition of the provincial poverty profiles as explained earlier, it will still be difficult to explain the incongruous variations between various pairs of provinces whose urban-rural composition as well as other structural characteristics may have well been similar and are yet showing contradictory trends in their poverty rates. Instead of treating these variations as anomaly in the data, this report has relied on the World Bank's assessment and validation of the quality of the IELFS data (World Bank, 2021), and

suggests that a deeper socio-economic analysis of provincial profiles and more detailed poverty analysis of the IELFS 2019-20 results will be needed to explain these variations – a task that is out of the scope of this report.

In the backdrop of major changes in spatial poverty trends, Panjsher and Paktika provinces stand out in their poverty outcomes. In Panjsher, the number of poor remained largely unchanged, while Paktika stood out in consistently reducing its poverty in both time periods. These two provinces demonstrate that it is possible for provinces to achieve poverty alleviation over time.

Figure 10: Provincial contribution to change in poverty 2016 to 2020, percentage points



Source: Authors' calculations based on NSIA data

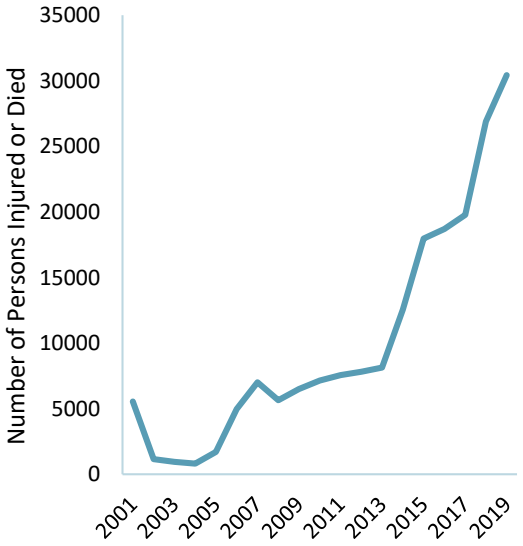
D. Local correlates of poverty

In this sub-section, we explore correlations between poverty and other variables of interest in Afghanistan, such as conflict, opium production, foreign aid, and government spending. We undertake a simple statistical analysis of the change-on-change correlation between pairs of variables. Although descriptive correlations do not take into account simultaneous relations between more than two variables of interest, the aim is to provide intuitions for the econometric analysis that will be developed in Section 2.

i. Conflict

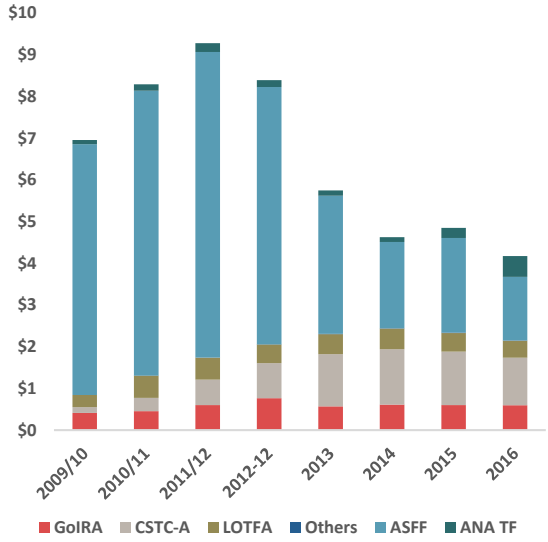
Persistence of conflict and violence in the post-2001 period in Afghanistan had a profound impact on the outcomes of economic development and quality of governance. Since 2005, conflict not only spread geographically in the country, but also intensified. Total human fatalities (including civilian and military casualties) increased without cessation; rising from less than 2,000 persons in 2005 to more than 30,000 persons in 2019 (see Figure 11). Total fatalities picked up significantly after 2012 when the security transition unfolded and total security spending, predominantly financed by the international community, began declining. The security transition, which consisted of gradual transfer of security responsibilities from the NATO troops to the Afghan National Security Forces, started in 2011 and concluded in 2014.

Figure 11: Total fatalities 2001 to 2020, number



Source: UCDP

Figure 12: Security spending by financing sources, 2009 to 2016, Billion USD



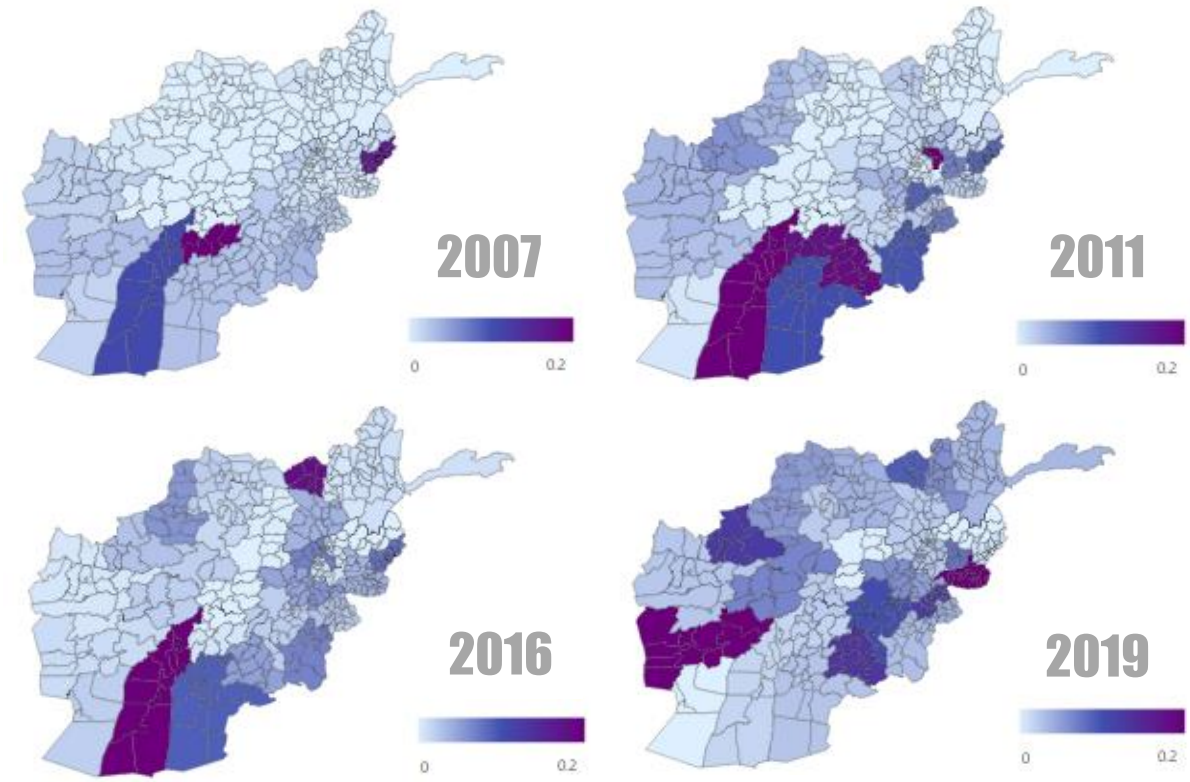
Source: World Bank, MoF, UNDP, SIGAR.

Note: CSTC-A, LOTFA, ASFF, and ANA TF were the trust funds that provided funding to Afghan National Security Forces (police and army).

The relationship between poverty and conflict has altered over time. Prior to 2011, easing of conflict was associated with an increase in poverty. On average, provinces with larger decreases in the intensity of conflict tended to show an increase in the incidence of poverty between 2007 and 2011. This association was predominantly due to observed trends in four southern provinces – viz Helmand, Kandahar, Zabul and Oruzgan – that experienced increases in conflict with a significant decrease in poverty. While these results seem counterintuitive at first glance, there could be many reasons for this observed correlation. First, lower levels of conflict are associated with lower security spending by both the international troops and the Afghan forces (Floreani et al., 2016). Therefore, provinces with less

conflict tended to receive less security spending and foreign aid, and therefore experienced less spillover effects of security-related public spending on poverty. Second, it is possible that a reduction in conflict especially in the southern provinces allowed large refugee and IDP inflows back to the provinces. Since refugees and IDPs tend to be economically weaker, an influx of these populations caused poverty to increase.

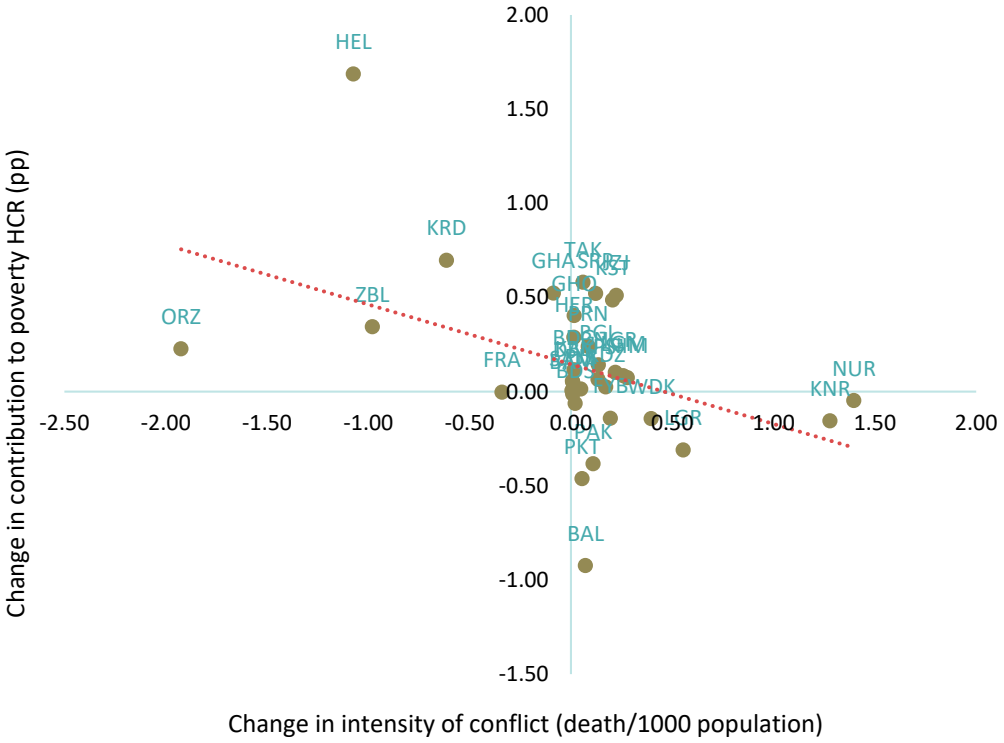
Figure 13: Civilian casualties per 1000 population 2007 to 2019, ratio



Source: Visualisation produced using UCDP data

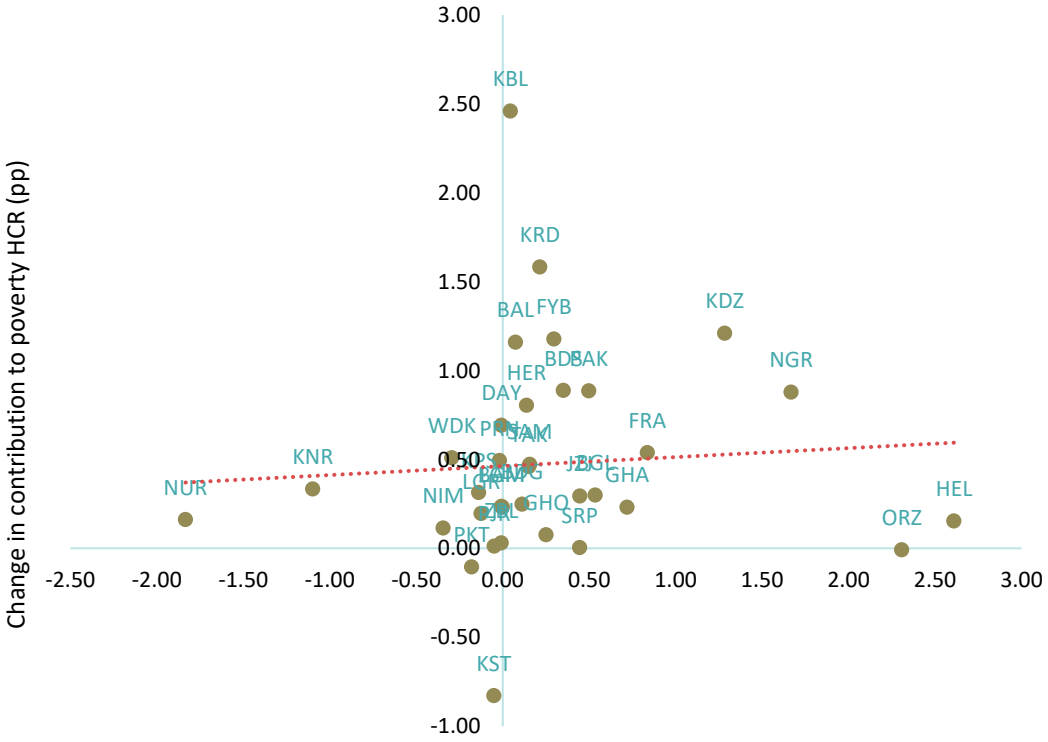
After 2011, the relationship between poverty and conflict reversed. On average, provinces that experienced an increase in the intensity of conflict also experienced an increase in poverty. The positive relation between intensity of conflict and changes in poverty between 2011 and 2016 is more intuitive since conflict is commonly understood to impede economic activity and thereby lead to reduced incomes and consumption. This period also coincided with a change in the international community's security stance in the country. The international troop surge began winding down after 2011, falling from a high of 110,000 US troops in 2011 to less than 10,000 by 2016. Consequently, security spending by international community declined, and conflict intensified in most provinces. There are, however, a number of outliers. For instance, Helmand and Oruzgan did not witness a rise in poverty despite experiencing an increase in the intensity of conflict. Or, for instance, Kabul did not experience any change in conflict, yet it witnessed a surge in poverty.

Figure 14: Scatterplot of poverty rate and intensity of conflict across provinces, 2007 to 2011, percentage points



Source: Authors' calculations based on NSIA and UCDP data

Figure 15: Scatterplot of poverty rate and intensity of conflict across provinces, 2011 to 2016, percentage points

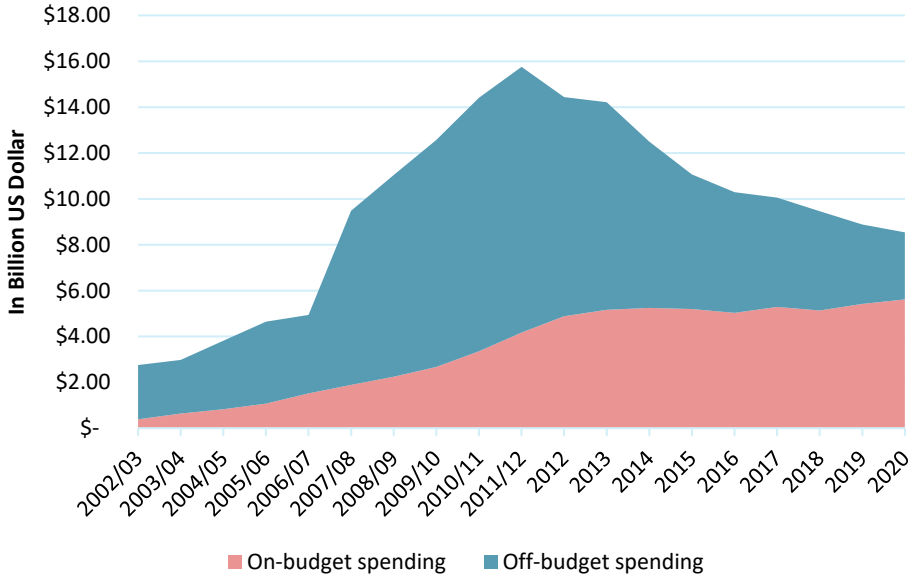


Source: Authors' calculations based on NSIA and UCDP data

ii. Public Spending: Foreign aid and budget expenditures

Afghanistan has been a highly aid-dependent country. Biruni Institute staff estimate that Afghanistan received nearly US$ 160 billion in donor assistance, including both security and civilian aid, over the past two decades. On average, about 80 percent of total public spending, i.e. including on- and off-budget expenditures, was financed by donor grants, which fuelled overall economic growth in the country. Annual aid inflows have had a non-linear trend; annual grants increased from about $2.6 billion in 2002 to about $13.6 billion in 2011, before embarking on a downward trend to reach $7.5 billion in 2020. Furthermore, while total public spending (including on- and off-budget expenditures) declined between 2011 and 2020, the on-budget portion of public spending increased as most donor-funded programmes were transferred onto the government's budget (see Figure 16).

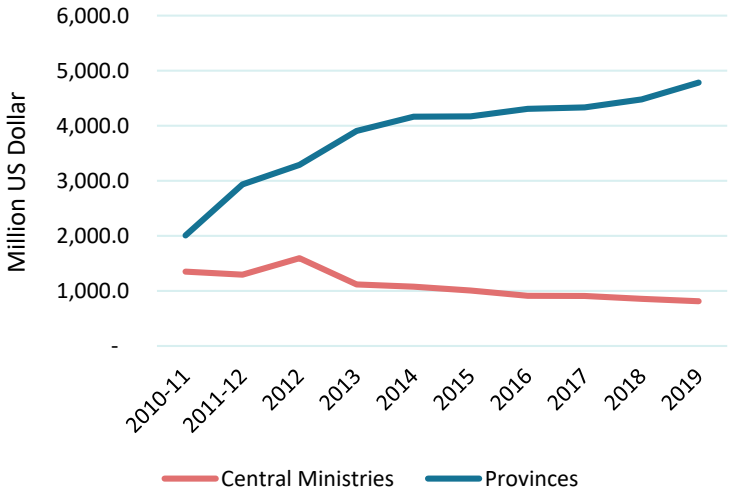
Figure 16: Total public spending, disaggregated by on- and off-budget, 2002-2020



Source: For off-budget spending, authors' estimates based on World Bank and USAID data. For on-budget spending, author's calculations based on MoF data.

As on-budgeting of expenditures intensified after 2011, with the start of the security transition and drawdown of international troops, not only overall on-budget expenditures increased (as shown in Figure 16) but also budget allocations to provinces scaled up. Budget spending in provinces increased from $2.9 billion in 2011 to $4.8 billion in 2019, as shown in Figure 17. However, off-budget expenditures – the portion of public spending that was directly financed and executed

Figure 17: Budget expenditures by provincial and central ministries, 2010-2019

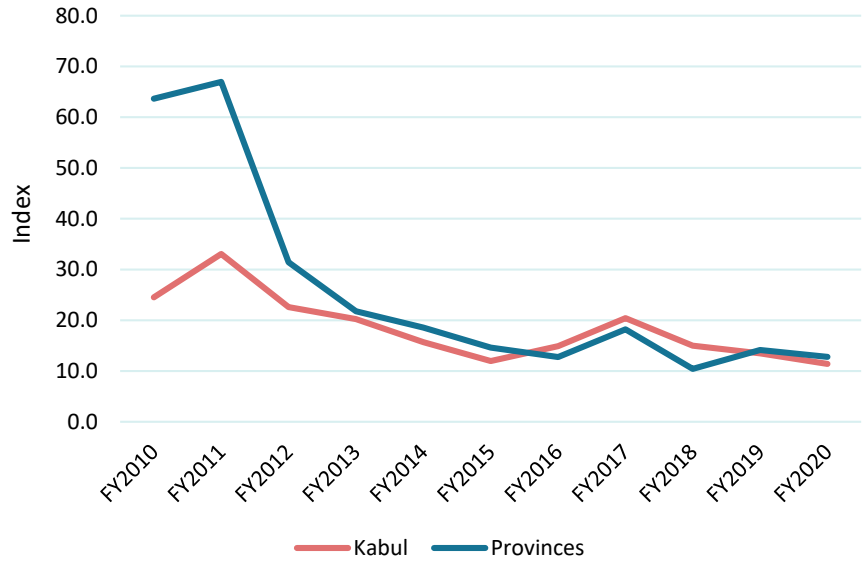


Source: Ministry of Finance

by the donors – declined in the provinces. In 2011, disbursements by the USAID, the largest international donor in Afghanistan, was twice as much in provinces as they were in Kabul. By 2018, however, USAID's provincial disbursements dropped to levels below its disbursement in Kabul. Given that data on foreign aid disbursements in Afghanistan is poorly captured, trend in USAID's disbursements could be treated as a proxy for the overall trend in foreign aid inflows to Afghanistan.

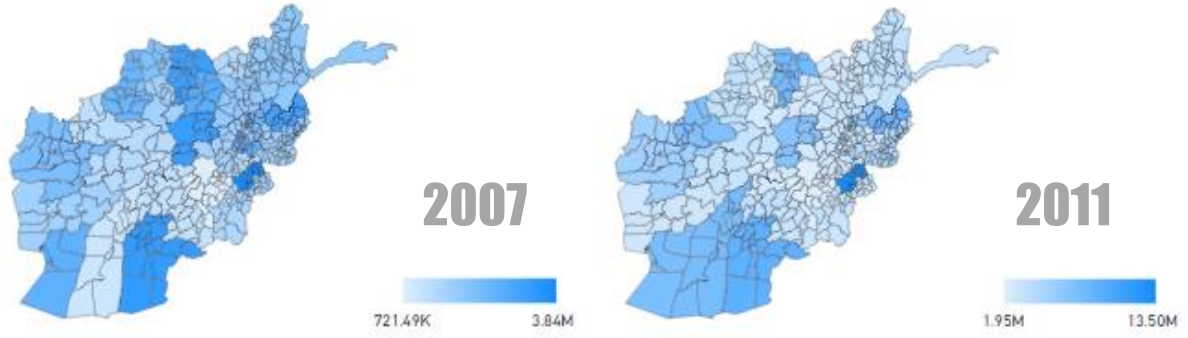
In sum, the post-2011 period was associated with increasing on-budget provincial spending, on the one hand, and decreasing off-budget provincial spending, on the other hand. In the following paragraphs, we explore the correlation between changes in poverty and changes in off-budget and on-budget expenditures using provincial data since 2010.

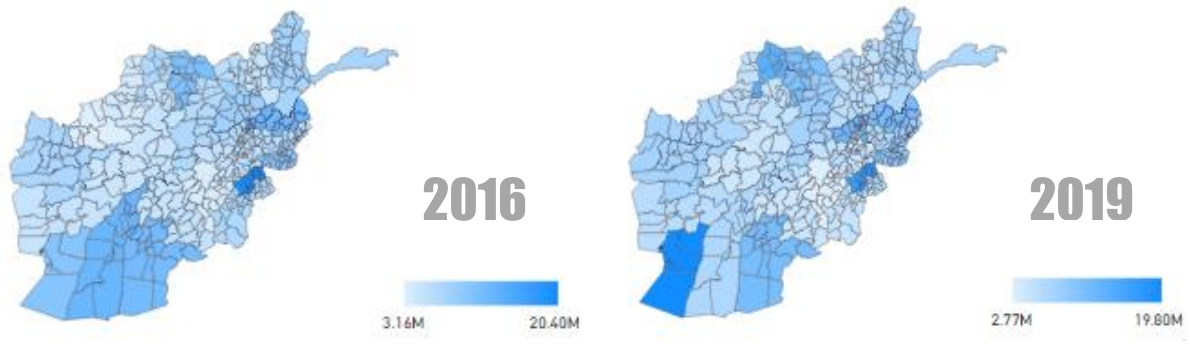
Figure 18: USAID annual disbursements, disaggregated for Kabul and provinces, anonymised index, 2010-2020



Source: USAID.
Note: To keep confidentiality of data, an anonymised index is calculated over a scale of 0-100. FY corresponds to the US fiscal year. For instance, FY 2020 refers to the period from October 2019 to September 2020.

Figure 19: Budget spending per 1000 population, by provincial breakdown, ratio

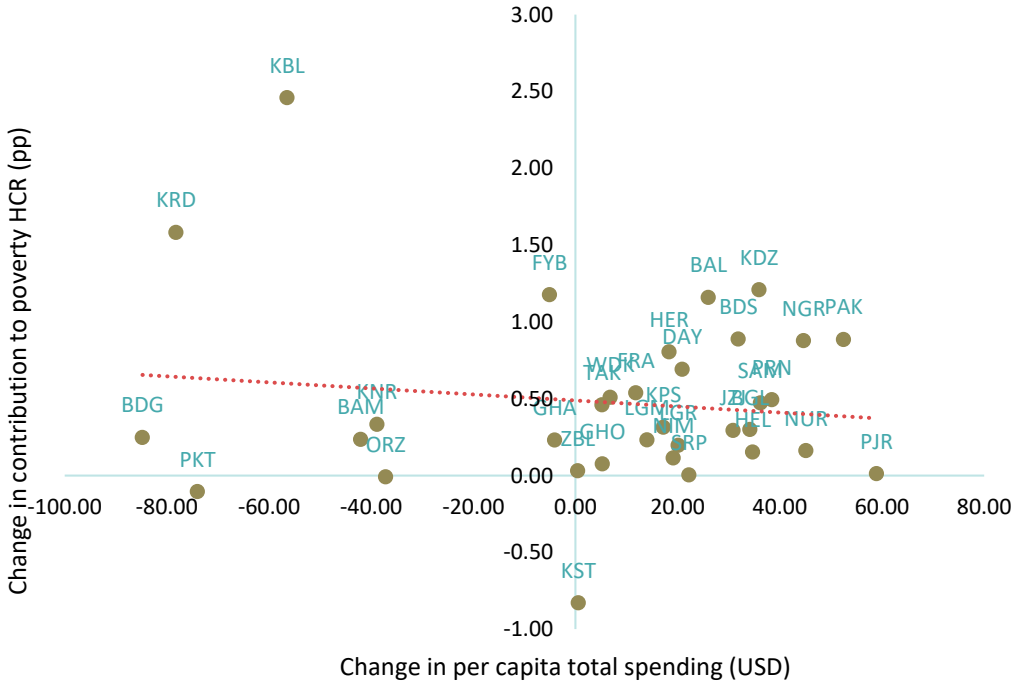




Source: Visualisations produced using MoF data.

According to the data, there is no strong correlation between poverty and public spending in Afghanistan. Between 2011 and 2016, on average, increases in per capita total spending at the province level (including budget expenditures and aid disbursements) were weakly associated with decreases in poverty. Kabul and Kandahar stood as provinces that experienced large increases in poverty following reductions in per capita spending. However, there are many outliers such as Balkh, Kunduz, Nangarhar and Paktia where poverty increased despite increases in public spending.

Figure 20: Scatterplot of changes in poverty and changes in total spending per capita, 2011-2016, percentage points and levels

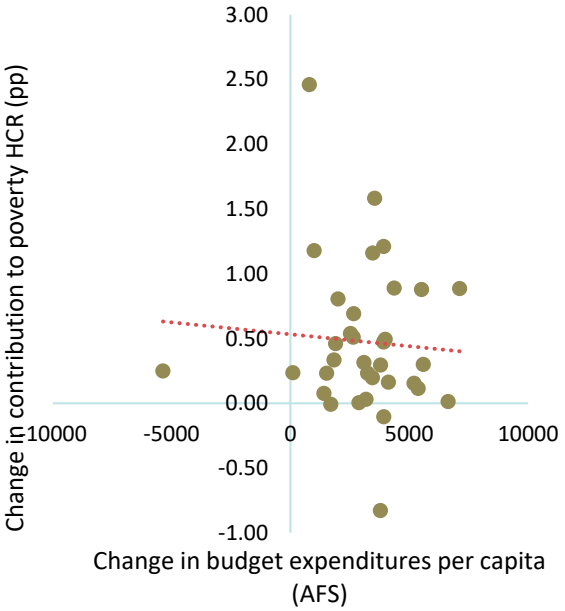


Source: Authors' calculations based on AFMIS, USAID and NSIA (ALCS 2011, ALCS 2016) data

To further explore the relation between public spending and poverty reduction, we disaggregate total spending into budget expenditures and aid disbursements. Data shows that there is no difference in the effectiveness of budget expenditures and aid disbursements in poverty reduction. Figures 21 and 22 present scatterplots for changes in poverty and changes in respectively budget spending and aid disbursements. In both scatterplots, the correlations are negative and weak, indicating that there is no

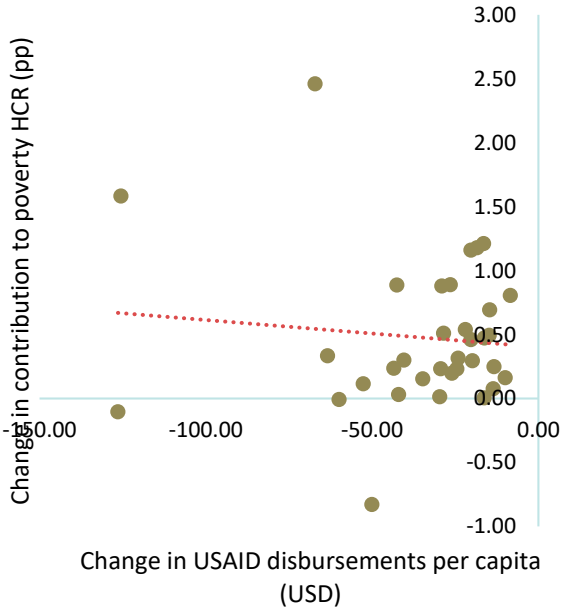
strong relationship between poverty reduction and the increase in two components of public spending, namely budget spending and aid disbursements.

Figure 21: Scatterplot of changes in poverty and changes in budget spending across provinces, 2011-2016



Source: AFMIS and NSIA (ALCS 2011 and ALCS 2016)

Figure 22: Scatterplot of changes in poverty and changes in aid disbursement across provinces, 2011-2016

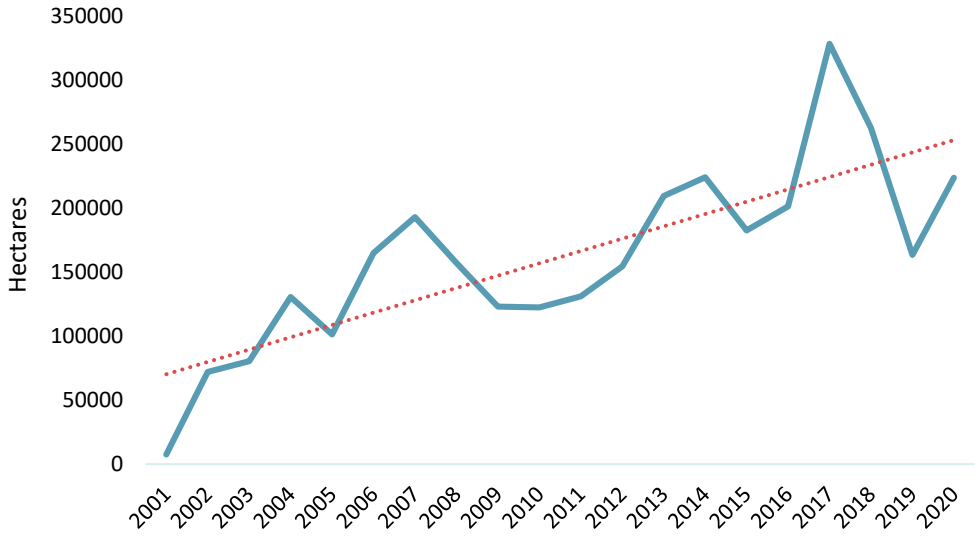


Source: USAID and NSIA (ALCS 2011 and ALCS 2016)

iii. Opium production

Despite concerted efforts, poppy cultivation in Afghanistan has consistently been on the rise in the past two decades. Area under poppy cultivation has increased from 70 thousand hectares following the US invasion in the early 2000s to a peak of almost 330 thousand hectares in 2017. Figure 23 shows that the area under cultivation did fluctuate from year to year, but the rising trend in poppy cultivation was robust with an annualised growth rate of 19.5 percent in the past twenty years.

Figure 23: Area under poppy cultivation, 2001 to 2020



Source: UNODC

It is important to look at the relation between opium production and poverty alleviation in Afghanistan, because illicit crops tend to be pro-poor in many parts of the world. Simple descriptive analysis on the Afghan data shows that changes in poverty and changes in area under poppy cultivation across provinces have, on average, not had a uniform and strong correlation across different time periods. Between 2007 and 2011, there seems to have been a positive correlation between the two variables. The correlation then turns negative over the period of 2016-2019, suggesting that poppy cultivation may have had pro-poor outcomes. However, in both periods the correlations are weak.

Figure 24: Scatterplot of changes in per-capita area under poppy cultivation and changes in poverty, across provinces, 2007 to 2011

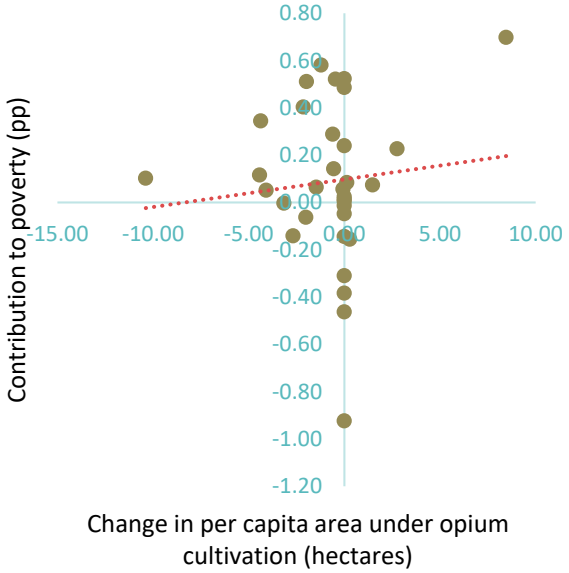
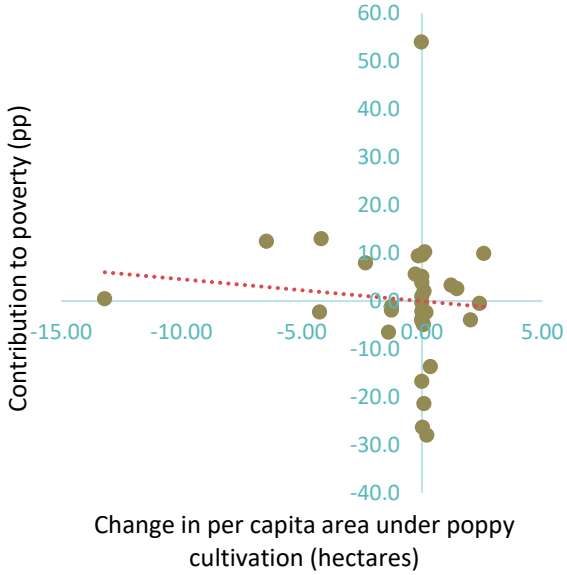


Figure 25: Scatterplot of changes in per-capita area under poppy cultivation and changes in poverty, across provinces, 2016 to 2019



Source: Authors' calculations using UNODC and NSIA data

An econometric analysis in the next section of the report will explore these relations in a more robust fashion, taking into account simultaneous impact of all variables in a pooled cross-sectional setup. In other words, correlations will be measured by holding all other variables constant, and cross-sectional variation across observations as well as time variation across periods will be concurrently treated in the analysis.

Section 2: Econometric Identification of the Correlates of Poverty

A. Introduction and Methodology

This study employs an econometric model to identify the main and potentially specific correlates of poverty in Afghanistan. It will allow us to discover the average profile of an Afghan household living in poverty, identify the determinants for the prevalence of household poverty, and understand the nature and extent of shocks encountered by the poor as well as the strategies they adopt for coping with various idiosyncratic and aggregate shocks. To do so, this research uses an econometric model that is able to exploit at once both the household data drawn from four waves of nationally representative surveys, and regional panel data compiled from administrative and independent sources. The latter include socio-economic data at district and province levels, such as budget spending, foreign aid disbursements, access to basic services (i.e., schools and health facilities), conflict, displacement, opium production, and natural disasters. The description of the data has previously been presented in the Methodology section (see Table 1).

The novel contribution of this research to the literature on poverty in Afghanistan is that it undertakes a multi-level analysis of the correlates of poverty, i.e. identifying the correlates both at individual (household) and regional (district or province) levels, and employs a pooled cross-sectional analysis that builds on four waves of household surveys (i.e. 2007-08, 2011-12, 2016-17 and 2019-20). It carries out the multi-level analysis in two stages. It first estimates a baseline model of the probability of being poor using cross-sectional data from the 2016-17 survey, and then extends the model to using pooled data from all four rounds of household surveys.

The household surveys are nationally representative surveys, which on average have sample sizes of around 20,000 households. In the pooled dataset, the total sample size is about 80,000 observations. However, in the model regressions where regional (district or provincial) correlates are included, the sample size reduces to as low as 30,000 observations because some of the regional datasets do not cover the period of 2007-08 (see Table 1 on the time coverage of regional panel datasets), and the questionnaire in 2019-20 household survey was modified and did not include some of the questions that were previously there in the prior rounds of household surveys. It is important to note that the household surveys are only representative at the province level; thus, even if district identifiers are available, the analysis cannot be disaggregated to district levels.

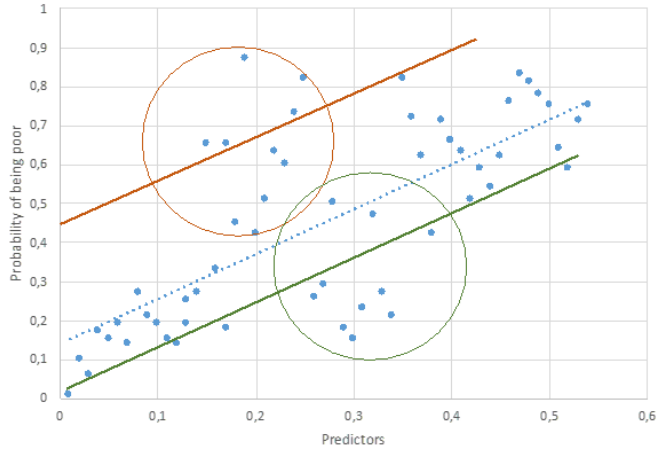
We use a mixed-effect Probit/Logit model, which is fitted for multi-level analysis with a binary dependent variable. The dependent variable in our model takes the value of 1 if a household is classified as poor. Predictors of poverty used in the model not only include household characteristics (such as household size, gender and age of the HH head, literacy and education level, sector of activity, type of employment, dependency ratio, etc.), but also community-level (such as access to basic services, access to critical infrastructure, existence of development projects, and topographic features of the village), district-level (number of schools, number of health facilities, conflict, displacement, and natural disasters), and province-level (such as budget expenditures and aid disbursement) characteristics. See tables 1 and 2 for the description of the variables. For all local and regional dimensions that are not explicitly controlled for, cluster-level (which corresponds to the Primary Sampling Unit of the household surveys), district-level and province-level fixed effects will be used.

Box 1: Clustered poverty characteristics and multi-level analysis

The two figures below plot the value of a predictor (e.g. being exposed to a health shock during the previous year) against the estimated probability of being poor for different household heads (shown in blue dots).

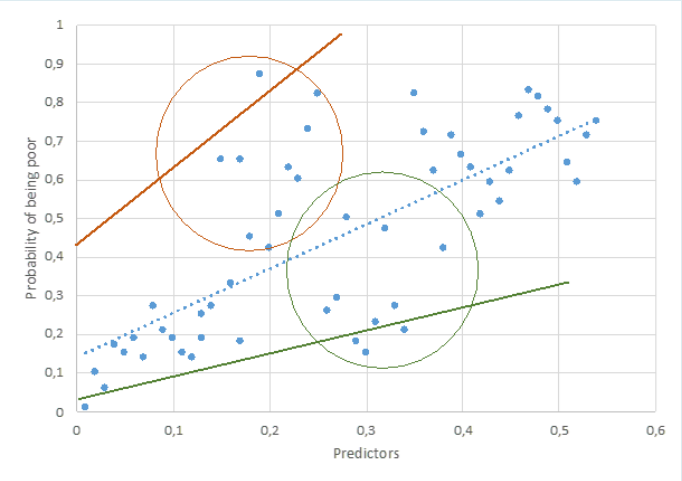
Figure 26 plots the average intercept (blue dashed line) and clustered intercepts (red and green solid lines): these intercepts give the probability of being poor when all predictors (including the health status) are set to 0. The circles show households of the same cluster, which roughly corresponds to villages. As visible, households in the green cluster are poorer on average than those in the orange cluster. Therefore, as the predictors in standard regression models are correlated by clusters, standard errors are clustered by village and inter-cluster variance is non-null.

Figure 26: Average intercept and clustered intercepts: probability of being poor when all predictors are set to 0



In Figure 27, the green cluster is still poorer than the orange cluster. Poverty's predictors are correlated by cluster, as well as their standard errors. The different slopes of the fitted lines show that the predicted impact of a health shock on the probability of being poor in the following year (green solid line) is lower for the green cluster than it is for the full sample (blue dashed line) and for the red cluster (red solid line).

Figure 27: Average intercept and clustered intercepts: predicted increase in probability of being poor when the value of predictor X increases by 1



Therefore, by modelling different intercepts or slopes for the different clusters, the multi-level estimation approach allows us properly fitting the data by estimating unbiased standard deviations.

When the data has a hierarchical structure (HH < Village/Cluster < District < Province), classical regression models are not appropriate since the underlying hypothesis of independence among the observations is violated because of within-grouping correlation. HHs in the same village or district rather tend to be similar to each other than households in different villages. Such a within-village correlation biases the estimated standard errors downward and leads to spurious significant results (see Cheah, 2009). However, multilevel models have the advantage of adjusting such biased standard errors and providing the best fit of data in presence of inter-groupings (clusters, districts, provinces) variance. Box 1 explains how poverty predictors might have clustered standard errors, and how multi-level analysis might be a better fit.

Therefore, in order to account for the bias of under-estimation of the variance due to using multi-level observations, we allow for varying intercepts per cluster in our model. Furthermore, we ensure that the sample-based results can be aggregated at the population level by running 'weighted' regressions that take into account the structure and weights used by the survey.

To formally define the model specifications, we consider as outcome a binary variable Y_{ij} that takes the value 1 if the household i in cluster j is classified as poor at the time of survey. Underlying the definition of Y_{ij} is the idea that a household is poor because a set of observed and unobserved factors affect its consumption to fall below the poverty threshold. As such, being poor or not is modelled as a latent variable Y_{ij} that is subject to a two-level random intercept ($e_{ij} + u_j$). The model (given by the logged transformation of the logit model) is specified as following:

- $Y_{ij} = \beta_{0j} + \sum_h \beta_h X_{ij} + \sum_c \beta_c Z_{ij} + e_{ij} + u_j$

A rich set of explicit covariates is controlled at various potentially nested levels:

- **Level 1** refers to the households and individuals aggregated at the household level;
- **Level 2** of the multilevel model refers to the cluster/village (consistent with the surveys' sampling method).
- Varying intercepts ($\beta_{0j} + \beta_h$) and random slopes ($e_{ij} + u_j$) are also modelled for higher-level groupings at district and province levels.

The model is estimated by the Maximum Likelihood (ML), relying on the mean-variance adaptive Gauss-Hermite quadrature to approximate the likelihood function (Rabe-Hesketh et al., 2005). We first fit a baseline model of household poverty with the data from the 2016-17 survey before extending the estimation to the pooled sample of households surveyed over the four waves (2007, 2011, 2016, and 2019). The latter will allow us to identify the structural correlates of poverty in Afghanistan over the long period (2007-2020).

Inclusion of predictors in the model and the assumptions tested are based on the findings from the existing literature on the complex determinants of poverty in Afghanistan and elsewhere.

Our estimations essentially show variation in the probability (in the case of probit estimator) and the odds ratios (in the case of logit estimator) of being poor which is associated to a given variation in a household-level and community-level characteristics. While the estimated probabilities should not be strictly interpreted as being causal for individual-level characteristics, we claim that the odds ratios estimated for higher-level determinants (districts, province) are closer to measuring causal impacts provided we accept that the potential impact of individual situation on the district or province's characteristics is limited. Although our empirical approach makes no attempt to measure the causal impact of individual-level characteristics of poverty, it is consistent with the concept of poverty traps (Kraay and McKenzie, 2014) which insists on the fact that some factors such as low educational attainments are concurrently both the determinant and the consequence of household poverty.

B. What are the main predictors of poverty in Afghanistan?

To identify the main predictors of household poverty in Afghanistan we proceed in two steps: first, we stabilize a baseline model on the most recent and documented wave of the household surveys (i.e., ALCS 2016-17), whose results are reported in sub-section B1. In a second step, we extend our analysis to a larger sample by incorporating data from all four waves of the household surveys (2007, 2011, 2016, 2019) in a pooled cross-sectional setup, which contains more than 80,000 observations. However, due to lack of data for certain district- and province-level indicators, the employed sample size is smaller.

i. Baseline estimations: 2016-2017

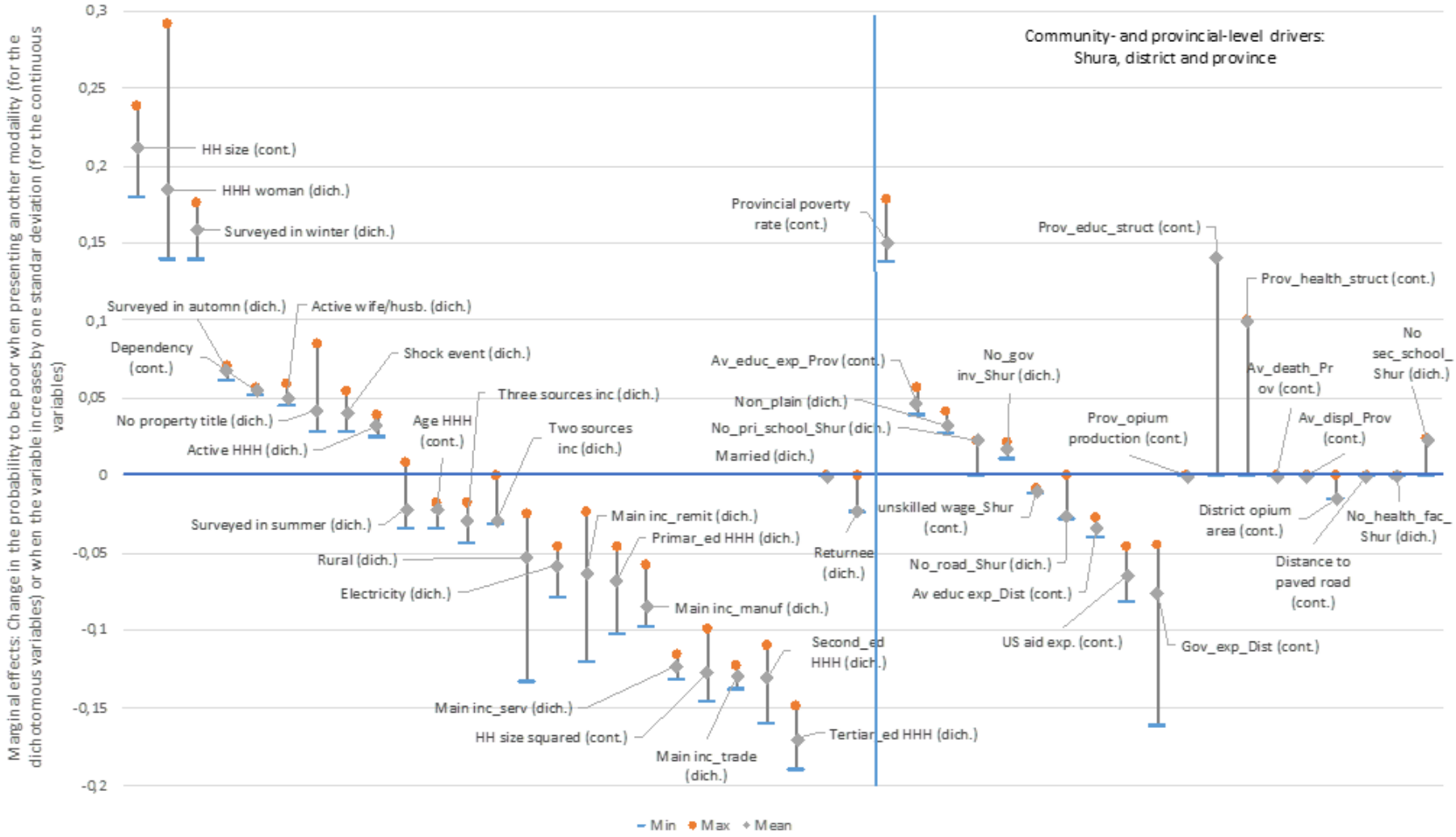
As a first step, our model is tested to fit the 2016-17 data. Figure 28 reports the estimation results of the Probit model with household poverty regressed on an extensive set of household-, community-, district- and province-level predictors. In order to gauge the sensitivity of the results and to get a picture of the average statistical association of each predictor with the likelihood of being poor, various model specifications have been tested: (i) weighted probit (with reference to the survey's weights) with province dummies, (ii) weighted probit with all province- and district-level controls, (iii) unweighted probit with all province- and district-level controls, and province-level random effects, (iv) unweighted probit with all province- and district-level controls, and district-level random effects, and (v) unweighted probit with all local controls and cluster-level random effects.

To conveniently summarise the estimations results under various model specifications, Figure 28 shows the minimum, the maximum and the mean value of the estimated coefficients across the five specifications described above. A short distance between different points (min and max) for a given predictor means that it is less sensitive to small changes in model specification. For the variables specified as dichotomous (dich.), the point estimate gives the percentage-point change in the probability of being poor (at a household level) when the value of the dummy changes from 0 to 1. For the predictors specified as continuous (cont.), the point estimate gives the percentage-point change in the probability of being poor for a 1-standard deviation increase in the predictor's value. When the estimated coefficient was not significantly different from zero, a zero value was attributed to the variable in the graph. Lastly, the estimated coefficients are graphically clustered according to their measurement levels: household-level predictors are presented in the left panel, and community-, district- and province-level predictors are presented in the right panel.

Estimation results of the model on household-level determinants of poverty in Afghanistan are in-line with the recent findings in the literature. First, the household's demographic characteristics stand as a powerful predictor of the poverty risk. The mean value of 0.22 for the coefficient HH_size (cont.) means that a 1-standard deviation increase in the size of the household (roughly equivalent to +3.5 persons) is associated with a 22-percentage point increase in the probability of being poor. As for the variable HHH_woman (dich.), the coefficient's mean value of 0.18 means that female-headed households are 18 percent more likely to be poor than male-headed households. As for Dependency (cont.), the 0.05-point estimate means that a 1-standard deviation increase in household dependency ratio (equivalent to +20% above the mean) is associated with a 5-percentage point increase in the probability of being poor. Finally, a 1-standard deviation increase in the age of the household head comes with a 3-percentage point lower risk of being poor.

Second, socio-economic characteristics of the household head are also powerful predictors of the poverty risk. For instance, the probability of being poor is strongly correlated with the level of educational attainment of the household head. Household heads with tertiary education (Tertiary_ed HHH (dich.)) are 17.5 percent less likely to be poor than households with no educated heads, while those with secondary and primary educated heads are respectively 12.5 percent and 7 percent less likely to be poor. Likewise, the main sector of income for the household is a powerful predictor of poverty in Afghanistan. Households whose main income comes from manufacturing activities are 8.5 percent less likely to be poor than the households who draw their main income from agriculture. Services and trade present even lower probabilities for poverty; households who rely on incomes from services and trade sectors are, respectively, 12.5 percent and 13 percent less likely to be poor compared to those who rely on agriculture. Furthermore, remittances also constitute a safer source of income that is associated with lower probabilities of household poverty. Households with diversified sources of income (i.e., household

Figure 28: Estimation results of the baseline Probit model (using 2016-17 data): Max, min and mean values of marginal effects in various model specifications



whose income comes from two or more different sources) face a 3-percentage point lower probability of being poor than those who rely only on a single source of income.

Third, as expected, adverse shocks increase the probability of household poverty. Households that were affected by a shock in the previous year, have a 3-percentage point higher probability of being poor than others who were not.

Some of the other results constitute relatively novel insights in the literature. First, the results show that **local conditions** have an ambiguous statistical relation with poverty. Households living in a community (village or urban district) that is located in a non-plain landscape (valleys, hills, and mountains) have a 3.5-percent higher likelihood of being poor than those living in plain areas. Likewise, rural households have a 5-percent lower probability of being poor than their non-rural counterparts. Opium production seems to constitute a potential source of poverty alleviation as a 1-standard deviation increase in the size of poppy cultivation areas in the district is associated with a 2-percentage point reduction in the likelihood of being poor for households living in that district.

The results also show that a community's distance to paved road, intensity of conflict in the provincial district (proxied by the average number of civilian deaths), and average number of displaced persons in the province do not have significant association with the risk of being poor. These results, while paradoxical they might seem, have to be further verified with the results from the pooled cross-sectional model that incorporates data from all four waves of household surveys.

Second, our findings show that – as expected – the **level of economic development** in a province is a significant predictor of poverty risk for households living in that province. Indeed, a 1-standard deviation increase in provincial poverty rate increases the probability of being poor for a household by 15 percentage points. We also find that absence of government development projects and absence of primary or secondary public schools in a community are associated with respectively 2-percent and 2.5-percent higher probability of being poor for the community residents. However, absence of health facility in the community does not affect the likelihood of being poor.

Third, **public spending** in a province is highly relevant for predicting the risk of poverty at household-level. We find that public spending, either through government budget or by aid disbursements outside the budget, significantly contribute to reducing the risk of poverty. The estimated coefficient of -0,07 for *Gov_exp_Dist (continuous)* means that a 1-standard deviation increase in governmental expenses in a province is associated with a very large 7-percent reduction in the probability of being poor for households living in that province. Likewise, the estimated coefficient of -0,065 means that a 1-standard deviation increase in the US aid disbursements in a province is associated with a 6,5-percentage point reduction in the probability of a household being poor.

However, **public infrastructure** tends to be positively associated with higher poverty prevalence, as a 1-standard deviation increase in the number of schools or a 1-standard deviation increase in the number of health facilities in a provincial district come along with a substantially higher likelihood of being poor (respectively, 15.0% and 10.0%). While this result may seem paradoxical, it could also be due to the fact that, as public sector endowments are not relative to the size of the district, more populous regions are poorer; likewise, as our model is not causal, this finding may also reflect the fact that public investment in schools and health centres are often channelled towards the provinces with higher prevalence of poverty. These interpretations are supported by the fact that the likelihood of being poor is reduced by almost 4 percent in districts where the average household spending on education is higher by 1-standard deviation.

ii. Long-run correlates of poverty based on pooled data (2007, 2011, 2016 and 2019)

In order to identify structural predictors of household poverty in Afghanistan over a long period, i.e. from 2007 to 2020, the multilevel model is re-estimated in this sub-section on pooled data from four waves of household surveys (i.e., 2007-08, 2011-12, 2016-17, and 2019-20). For computational reasons, we run a multi-level logit model (instead of probit) and base our comments on the odds ratios. Again, for computational reasons, we use as baseline an unweighted model, i.e. in which standard errors are not corrected by the sample weights. Yet, sensitivity analyses that we have conducted suggest that the standard deviations of the unweighted model are not biased to the extent that would change the significance of the estimated coefficients in the unweighted model.

Table 3 and Figure 29 report the estimated odds ratios of the predictors of poverty. For dichotomous variables, the odds ratio measures the ratio of the probability of being poor when the dummy variable takes the value of 1, over the probability of being poor when the dummy variable takes the value of 0. An odds ratio greater (smaller) than 1 means that the probability of being poor is higher (lower) when the dummy variable takes the value of 1 (compared to when it takes the value of 0). As for continuous variables, they are transformed in z-score so that the odds ratio measures the ratio of the probability of being poor when the continuous variable increases by one standard deviation, over the probability of being poor when the continuous variable does not increase. In this case, an odds ratio greater (smaller) than 1 means that the probability of being poor is higher (lower) when the value of the continuous variable increases than when it does not. An odds ratio exactly equal to 1 means that the predictor is not significantly associated with the probability of being poor. Therefore, in Table 3 and Figure 29, when an estimated odds ratio is 1, it indicates that the estimated coefficient for the variable is not significantly different from zero.

Overall, estimation results of the multi-level Logit model fitted with the pooled data are largely consistent with those of the model fitted with 2016-17 data. First, the **demographic characteristics of a household** remain a powerful predictor of the poverty risk in the long run. A 1-standard deviation increase in the size of the household (equivalent to +3.41 persons) is associated with a probability of being poor that is 1.6 to 1.7 times higher than if the household size does not change. Households with a female head are 2.1 to 2.9 times more likely to be poor than households with a male head. A 1-standard deviation increase in household dependency ratio is associated with a probability of being poor that is about 1.5 times higher than if the household dependency ratio does not change. However, the age of the household head is no longer statistically associated with a higher probability of being poor, contrary to the results from the 2016-17 model. Nonetheless, similar to the 2016-17 results, the prevalence of poverty is higher when the household heads are economically active. Households whose male head (or his wife) is economically active is associated with a probability of being poor that is about 1.2 times (about 1.3 for the household wife) higher than when the male head (his wife) is not active. This can be explained by the fact that in poor households the heads often remain economically active due to lower incomes, even if other members of the household participate in the labour force.

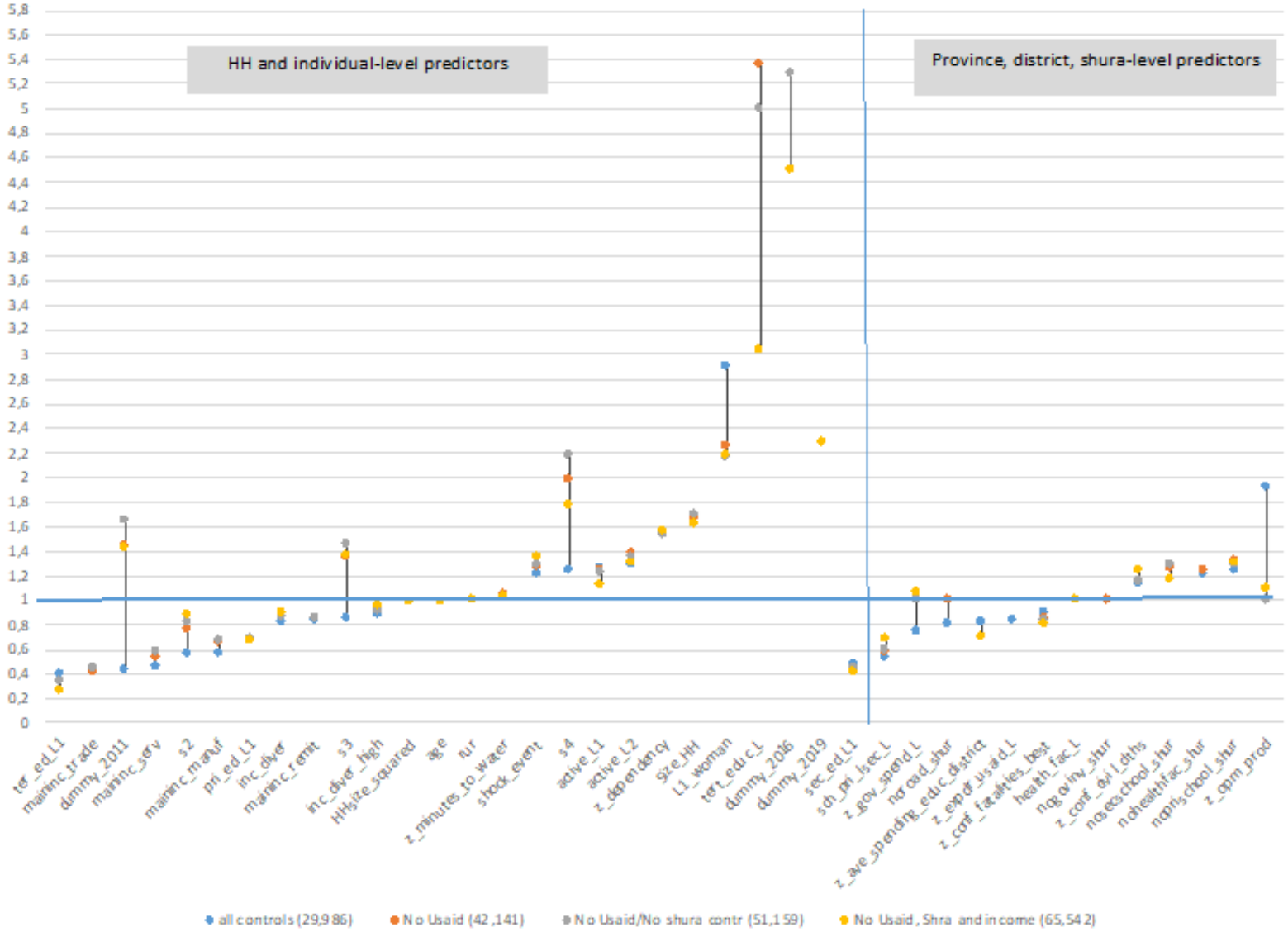
Second, the **socio-economic characteristics of the household head** are also powerful predictors of the poverty risk in the long run. The results show that the probability of being poor is still strongly correlated with the level of educational attainment of the household head. Households whose heads have tertiary education (*ter_ed_L1 (Dich.)*) are 2.5 to 3.33 times (i.e., respectively, 1/0.4 and 1/0.3) less likely to be poor than households with no educated heads, while the odds to be poor are 2.0 to 2.5 times and 1.43 times lower for the household heads with respectively secondary and primary educated heads than for those with no education. Likewise, the sector from which the households earn their main income source remains a powerful predictor of poverty in Afghanistan in the long run. The probability of being poor is 1.15 to 1.7 times lower for the households whose main income comes from the services sector than for

Table 3: Estimated odds ratios of the predictors of poverty: Multi-level logit model using pooled data (2007, 2011, 2016 and 2019)

	I	II	III	IV
Sample size	*29,986*	*42,141*	*51,159*	*65,542*
Size_HH	1.657	1.666	1.694	1.625
HHsize_squared	0.986	0.985	0.984	0.986
age	0.993	0.992	0.993	0.991
L1_woman	2.895	2.253	2.169	2.174
active_L1	1.258	1.246	1.225	1.123
active_L2	1.293	1.38	1.343	1.303
z_dependency	1.554	1.54	1.526	1.566
pri_ed_L1	0.69	0.689	0.69	0.663
sec_ed_L1	0.476	0.447	0.45	0.412
ter_ed_L1	0.394	0.344	0.337	0.267
rural	1	1	1	1
z_minutes_to_water	1.047	1.046	1.032	1.036
health_fac_L	1	1	1	1
noprischool_shur	1.248	1.314	1.285	1.308
nosecschool_shur	1.169	1.251	1.282	1.169
sch_pri_lsec_L	0.527	0.573	0.601	0.68
tert_educ_L		5.361	4.995	3.041
z_ave_spending_educ_district	0.822	0.699	0.702	0.696
z_gov_spend_L	0.751	1	1	1.067
z_opm_prod	1.926	1	1	1.088
z_conf_civil_dths	1.142	1.148	1.149	1.241
z_conf_fatalities_best	0.895	0.855	0.833	0.804
shock_event	1.216	1.273	1.284	1.348
inc_diver	0.822	0.86	0.861	0.898
inc_diver_high	0.886	0.904	0.91	0.956
maininc_trade	0.423	0.418	0.44	
maininc_serv	0.463	0.535	0.578	
maininc_manuf	0.567	0.66	0.666	
maininc_remit	0.831	0.851	0.851	
noroad_shur	0.803	1		
z_expdr_usaid_L	0.828			
nogovinv_shur	1	1		
nohealthfac_shur	1.218	1.247		
s2	0.561	0.764	0.827	0.879
s3	0.844	1.347	1.456	1.357
s4	1.246	1.978	2.183	1.765
dummy_2011	0.43	1.438	1.643	1.426
dummy_2016		4.497	5.283	4.493
dummy_2019				2.278

For variable definitions, please refer to Appendix I.

Figure 29: Estimated odds ratios of the predictors of poverty: Multi-level logit model using pooled data (2007, 2011, 2016 and 2019)



those whose main income comes from agriculture. Those relying on income from the trade sector have even lower probability of being poor; i.e. 2.3 times lower chances of being poor as compared to those relying on agriculture. Households that derive their main income from manufacturing activities present 1.5 to 1.8 times lower odds of being poor than those deriving income from the agriculture sector. Additional regression results (not reported in Table 3) show that households whose heads are day labourer are twice more likely to be poor than other households. By contrast, households whose heads are self-employed with no employees are 12 percent less likely to be poor than the other households, with the association being larger in urban settings.

Furthermore, remittances have constantly remained a source of income that prevents households from falling into poverty more effectively than agricultural incomes since 2007. According to the results, households for whom remittances constitute their main source of income show a 1.2 times lower probability of being poor than those whose income primarily come from agriculture sources. Households with diversified sources of income (with two or more different sources) face a probability of being poor that is 1.2 times lower than if they rely on a single source of income.

Third, for the **households affected by a shock** in the previous year, the probability of being poor is 1.2 to 1.4 times higher than for the households that were not affected. Importantly, the survey dummies take very different signs as, all other factors set equal, the probability of being poor was significantly higher in 2016 (4.5 to 5.3 times larger) and 2019 (2.3 times larger) than in 2007. By contrast, the results for 2011 are highly sensitive to the choice of specification, and hence, the number of observations. Yet, three of the four odds ratios are greater than one, which suggests that the probability of being poor was greater in 2011 than in 2007. Also relevant for understanding the correlates of poverty in the long run, the odds ratios reported for the seasons during which the households were surveyed show that, all other factors set equal, the probability of being poor tend to be lower in the summer (s2) in reference to the spring (s1), and tend to be higher in the autumn (s3) and winter (s4) in comparison to the spring (s1).

Fourth, **conditions of location and accessibility to infrastructure** have ambiguous statistical relations with poverty. For instance, living in a rural area is not statistically associated with the likelihood of being poor. Distance to water sources (*minutes_to_water*) or living in a community/village without paved road (*noroad_shur*) are also not significantly associated with the probability of being poor. Nonetheless, households living in a community with no health facility (*nohealthfac_shur*) is associated with 1.2-1.3 times higher probability of being poor compared to living in a community that is endowed with a health facility. However, increase in the total number of health facilities in the provincial district (*health_fac_L*) does not reduce the likelihood of poverty.

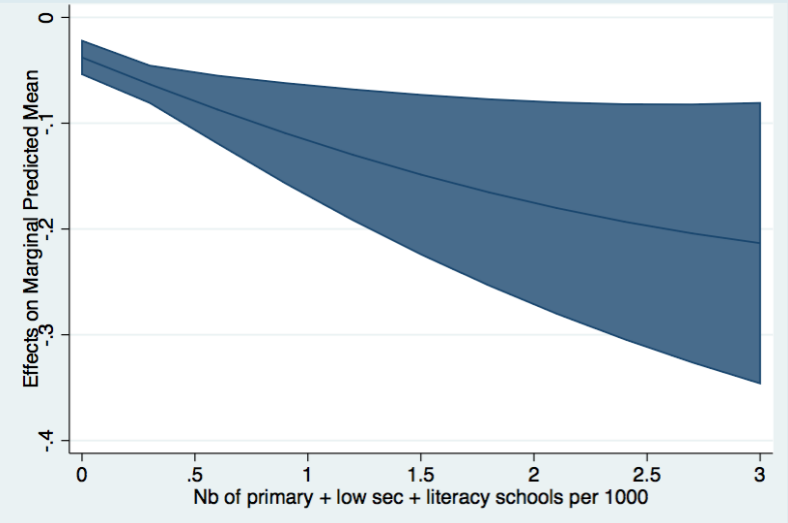
Similarly, living in communities/villages where there are no primary or secondary schools (respectively, *noprischool_shur* and *nosecschool_shur*) increases the likelihood of being poor. Living in a community with no school is associated with 1.1 to 1.3 times higher probability of being poor compared to living in a community with a school. The amount of public investment in school infrastructure also matters. A 1-standard deviation increase in the number of primary and secondary schools in the provincial district (sch_pri_lsec_L) is associated with 1.5 to 1.8 times lower probability of being poor. However, investment in 'higher education' infrastructure (proxied by the number of tertiary education facilities, *tert_educ_L*) shows a direct relation with poverty. This might be because tertiary education institutions are primarily based in urban centres, where there is a higher concentration of the poor due to the urban demographic size.

Box 2: Matching supply and demand of education for enhanced poverty outcomes

Education appears to be important for poverty reduction in Afghanistan. Our results have shown that, on the supply-side, a higher number of primary and secondary schools (per 1,000 inhabitants) in a provincial district comes with a lower risk of being poor for households who live in that district. On the demand-side, a higher level of average household spending on education in a district – which shows higher preference of the inhabitants of the provincial district for education – also seems to be associated with lower risk of being poor.

To test whether better matching the supply of education (by the government) with the demand for education (reflected in households' willingness to spend and invest in their children's schooling) increases the poverty alleviation impact of education, we compute the marginal effect of a 1-standard deviation increase in average household spending in education on the likelihood of household poverty for various levels of educational infrastructure in a provincial district. The results are shown in Figure 30, which indicate that a 1-standard deviation increase in household education spending is associated with about 15-percent reduction in the likelihood of being poor when there are 2 schools (per 1,000 inhabitants) in the provincial district, against a 10-percent reduction when there is only 1 school (per 1,000 inhabitants) in the district. This result suggests that investment in educational infrastructure will yield better poverty alleviation effects if it is coupled with targeted policies (such as conditional cash transfer programmes) that would enhance people's willingness and capacity to spending on education.

Figure 30: Marginal effect of a 1-standard deviation increase in average household spending in education on the likelihood of household poverty for various levels (number) of schools in a district



Fifth, while budget spending does not show a stable statistical relation with poverty, **foreign aid disbursements** seem to be a significant determinant for poverty. Results of the pooled model show that a 1-standard deviation increase in foreign aid to a province (*expdr_usaid_L*) is associated with 1.2 times lower likelihood of poverty for a household living in that province. Knowing that aid tends to flow in priority to the poorer areas, properly accounting for reverse causality in the model would certainly increase the magnitude of the measured impact.

Sixth, **intensity of conflict** seems to matter for explaining the likelihood of being poor. A 1-standard deviation increase in the number of civilian deaths in the provincial district comes along with a 1.15 to 1.25 times higher odds of being poor, than in districts where the number of civilian deaths does not increase. However, a similar increase in the total number of fatalities (including military fatalities) is associated with a 1.10 to 1.25 lower risk of being poor. While this may seem rather odd, it should be

viewed in conjunction with the nature of war in the country. In military combats, where the former government forces and the Taliban fought using conventional weaponry, fatalities primarily consisted of military casualties. This type of military combat principally took place in rural areas and was often associated with higher security-related aid disbursements and/or budget expenditures.[5] As to non-conventional attacks which consisted of using improvised explosive devices, they principally concentrated in urban areas, which had higher number of civilian casualties. These results could therefore be interpreted in a sense that increases in the intensity of non-conventional military actions that lead to increases in the number of civilian casualties in a district are associated with higher probabilities of being poor for households living in that district, while increases in the intensity of conventional military operations is associated with lower probabilities of being poor. The latter is true because security-related aid and budget expenditures more than offset adverse effects of conflict on poverty.

Seventh, while the results of the 2016-17 model had shown that **opium production** had poverty alleviation effects, the results from the pooled model do not confirm such relation. It seems opium production does not have a statistically significant impact on the likelihood of poverty over the whole period, as the estimated odds ratio is 1 (indicating no statistical significance) in two of the model specifications.

C. Poverty and shocks

In this sub-section, we conduct a more focused empirical investigation on microeconomic shocks (and adaptation strategies) that might be relevant in informing poverty alleviation policies and interventions in Afghanistan. Vulnerable households are prone to falling into poverty as they are often hit by shocks that affect their incomes. Likewise, poor and vulnerable households generally lack the capacity to adapt or to overcome the impact of adverse shocks, because of limited availability and access to financial resources. Adaptation strategies such as debt accumulation or sales of assets may further increase their vulnerability in the future.

i. Which shocks exert largest impact on the poor in Afghanistan?

Poverty is linked with vulnerability; a household's livelihood can be significantly affected by external shocks, such as a sudden hike in consumer prices, or by idiosyncratic shocks, like a serious illness for the household head, which will exert strong impact on the level and structure of household's spending and constrain its ability to raise income. In fact, the poor are naturally more vulnerable than others as they lack financial capacity to buffer against the shock. As a consequence, vulnerable households might be inclined – more than the others – to cut health or schooling expenditures or to sell productive assets, which will in turn lead to detrimental long-term consequences for escaping poverty and reducing vulnerability in the future.

To understand which shocks affect the poor in Afghanistan the most, we run the baseline specification of the weighted multi-level probit model, using the 2016-17 data, with a single shock variable. We repeatedly estimate the model using alternate shock variables each time. The shock variable in the model is a dummy variable that takes the value of 1 if the household head had declared during the survey that the household was hit by the relevant shock in the previous year, and 0 otherwise. A shock variable is labelled "high" if the household head rated the shock as 'severe', as against 'light' and 'moderate' in the case of "normal" shocks. As the model is estimated on the whole sample, the

[5] For instance, the ISAF and NATO members established Provincial Reconstruction Teams (PRTs) that supported aid-funded reconstruction efforts in provinces or districts where their troops engaged in combat. This naturally increased aid disbursements in provinces where conventional military operations were high.

coefficient of a given shock variable should be interpreted with reference to the absence of this type of shock, irrespective of whether the household was hit by other types of shocks or not.

Figure 31: Marginal effect of various shocks based on the baseline 2016-17 probit model (in percentage points)

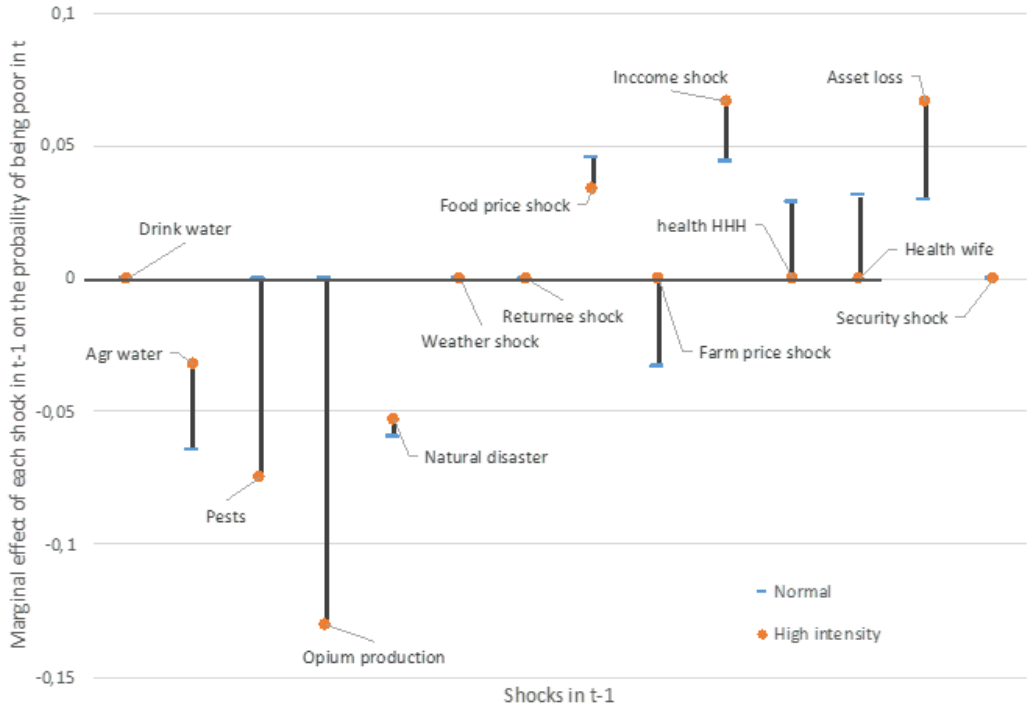


Figure 31 visualises individual marginal effects of various shock variables that were tested. It shows that food prices shock, income shock, wealth shock (asset loss), and health shocks exert largest impact on the poor in Afghanistan. More specifically, Afghan households who underwent a severe 'income shock' or 'asset loss' in the previous year, face about 7-percentage point higher probability of being poor in the current year. Afghan households also appear particularly vulnerable to consumption price shocks (in year *t-1*), as the latter are associated with 4-5 percentage point increase in the probability of being poor (in year *t)*. Finally, serious illness of household head or second in rank (i.e. wife) is associated with a 3-4 percentage point increase in the probability of being poor.

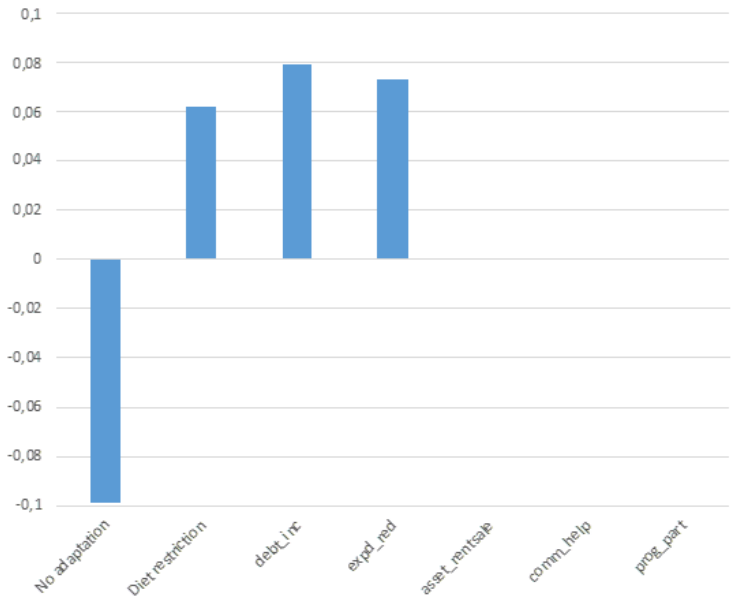
However, shocks such as reduced drinking water, extreme weather conditions, large influx of returnees, unusual decrease in farm-gate prices, and insecurity do not seem to have any significant impact on the likelihood of poverty. More unexpectedly, reduced agricultural water, high level of crop pests and diseases, loss of opium production, and natural disasters seem to have a negative marginal effect on household poverty. In other words, a household that has assumed any of the shocks related to agricultural water, crop pests, opium production and natural disasters in the previous year, has a lower probability of being poor compared to a household that did not assume any of those shocks, holding all other factors constant. This result might be simply due to the fact that these shocks have mostly affected non-poor households who owned agricultural lands, and therefore for whom reduced agricultural water or increased crop pests and diseases were relevant. Similarly, those engaged in opium production are likely to have higher income and expenditures. The latter was confirmed by the results of the baseline 2016-17 model, where the marginal effect of poppy cultivation in a provincial district on the probability of household poverty was negative (see Figure 28).

ii. How do the poor adapt to shocks?

It is important to better understand the adaptation strategies of the poor in response to shocks, because the choice of strategy will have consequences on their future vulnerability. Figure 32 shows the probability of being poor for various strategies adapted following a shock. The results are drawn from repeated estimations of the baseline model (weighted probit model using 2016-17 data) with adaptation strategies being alternately controlled for. As the estimation sample is reduced to the household who were affected by at least one shock in the previous year, each dummy's (strategy's) coefficient should be interpreted with reference to the absence of all other types of adaptation strategies, including the absence of any adaptation strategy.

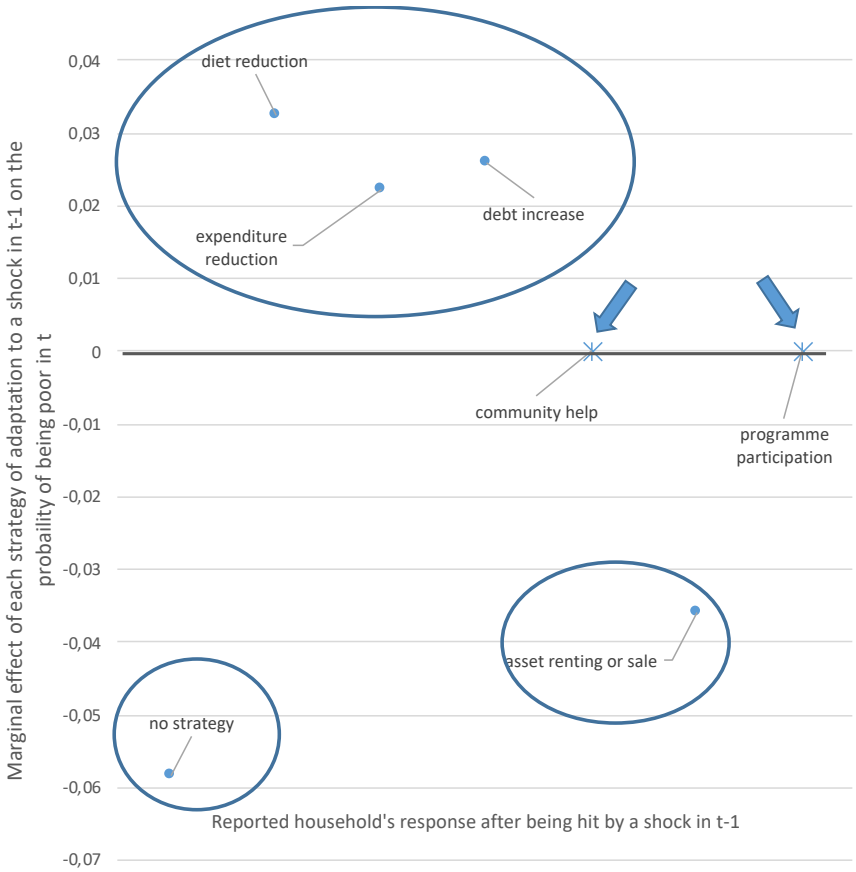
Our estimations show that the poor are 10-percentage point less likely than the non-poor to have no coping strategy after a shock, that they are 8-percentage point more likely than the non-poor to increase their debt after a shock, 7-percentage point more likely than the non-poor to cut their spending after a shock, and 6-percentage point more likely than the non-poor to cut their food spending after a shock. There is no significant difference between the poor and the non-poor as regards to adaptations through renting/selling of assets, seeking help from the community, or participating in social programmes.

Figure 32: Impact of various coping strategies on the probability of being poor: Weighted multi-level probit estimation of the baseline model using 2016-17 data



These results could be better understood if we compute the marginal effect of these strategies. Figure 33 shows the percentage point change in the probability of being poor for various coping strategies following a shock. It shows that households who reduced their diet after a shock are 3 percent more likely than the others to be poor in the year following the shock. Households who increased their debt after a shock are 2.5 percent more likely to be poor than others in the year following the shock. Households who rented out or sold assets after a shock are 3.5 percent less likely to be poor than others in the year following the shock. Lastly, reaching out to community for help or participating in social programmes has no impact on the probability of being poor in the next year.

Figure 33: Percentage point change in the probability of being poor following various coping strategies: Weighted multi-level probit estimation of the baseline model using 2016-17 data



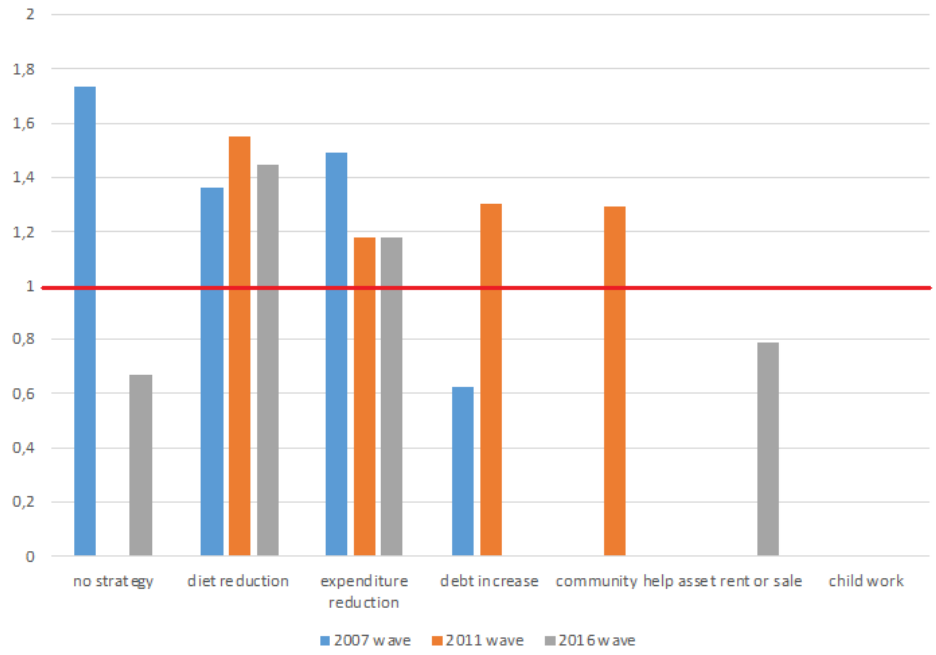
Taken together, the results as shown in figures 32 and 33 suggest that for Afghan households, external and idiosyncratic shocks, as well as adaptation strategies that they choose, tend to reinforce poverty, as the most vulnerable are more likely to adopt strategies that are associated with the higher risk of remaining poor in the future. Diet and other spending reduction, as well as household debt increase, turn out to be the strategies with strongest statistical association with poverty. Additional investigation would be necessary to test more deeply this assumption and relate potential cumulative poverty mechanisms in Afghanistan to the large poverty trap literature.

The results also suggest that households who did not adopt a coping strategy after a shock are 6 percent less likely than others to be poor in the year following the shock. This result should be understood in the sense that the non-poor are not forced to adopt a coping strategy after a shock as their saving and income may be sufficient to smoothen the shock. This can be observed in the data. Over the years, Afghan households have become less and less reactive to respond to shocks by adopting mitigation strategies; the proportion of households who declared not having adopted a strategy to mitigate the adverse effects of the shocks increased from 6.5% in 2007 to 57.0% in 2019, and the larger share of these households are non-poor (see Table 4).

Table 4: Proportion of households who declared not having adopted a strategy to mitigate the adverse effects of the shock on their livelihood

	All households	Poor households	Non-Poor households
2007	6.5	8.8	4.9
2011	31.5	26.1	35.4
2016	42.9	37.9	49.2
2019	57.0	54.0	59.4

Figure 34: Odds ratios of various coping strategies: Unweighted multi-level logit model estimated using separate data from 2007, 2011 and 2016



To better understand the results, we further test these relations by separately estimating the baseline model for each round of the survey (2007, 2011 and 2016). Once again, the results for the poverty impact of adaptation strategies of diet reduction, spending reduction, and debt accumulation – whose ratios are larger than 1 (as shown in Figure 34) – in all three model estimations confirm the earlier results (shown in figures 32 and 33). Furthermore, we notice that while in 2007 households who reported not having adopted a strategy to mitigate the adverse impact of shocks were 1.7 *more* likely to be poor than those having adopted one strategy. This statistical association reversed in 2016 as they were 1.55 times *less* likely to be poor than those having adopted a strategy. This echoes the discussion about Table 4; the absence of a mitigation strategy following a shock has progressively become a characteristic of the non-poor in Afghanistan.

What is the socioeconomic profile of the households that do not adopt any coping strategies following an event of shock? Relying on a marginal effect analysis of the multi-level probit model (whose results are not visually reported), households who draw their main income from services, trade or from remittances are, respectively, 10%, 8% and 6% more likely not to adopt any coping strategy than the households who earn their income from agriculture. More educated (tertiary and secondary) households are also more likely not to have any adaptation strategy following a shock, compared to others whose head is not educated. Households of large size and with high dependency ratios are also more likely to skip adaptation strategies after a shock. Furthermore, the likelihood of not having adopted an adaptation strategy is 4% lower for the households with at least two sources of income and an economically active wife.

As for the predictors of adaptation strategies, we find that households with an economically active wife and the households who draw their main income from agriculture tend to use the adaptation strategies of debt increase, diet restriction and spending reductions than their reference categories. Women household heads are also more likely to ask help from the community, while households with very diversified sources of income are more likely to sell or rent out assets.

Section 3: A Renewed Approach to Poverty Alleviation in Afghanistan

A. Learning from the Past Experience

A quick review of policy failures in the fight against poverty in Afghanistan reveals a number of lessons that must be reflected in devising future poverty alleviation strategies:

i. Growth-centric strategies ignored poverty alleviation as a first-order objective: Although poverty reduction was constantly reported as an important policy objective in all development strategy documents, policy measures that were devised and proposed for implementation aimed primarily to maximise the rate of economic growth rather than to make the process and pattern of growth more inclusive. They assumed poverty reduction to come by as a natural by-product of economic growth. While the Afghanistan National Development Strategy (ANDS) of 2008–2013 had a chapter dedicated to the analysis of poverty, almost all of its proposed policies were aimed at generating economic growth; poverty alleviation never made it as a primary anchor within the strategy.

ii. A coordinated and concerted approach to poverty reduction was mostly absent: While several policy reports, mainly produced by the World Bank, put forth important policy measures to reduce poverty, the poverty reduction agenda was never treated as a national priority. Out of the 22 National Priority Programmes (NPPs) that were initially designed in 2010, and later consolidated into 10 programmes in 2016, none of them were dedicated to poverty alleviation. Even as a whole, the NPPs were not developed with a policy lens to tackle poverty in the country. A National Council for Poverty Reduction was established as late as 2017 under the President's purview, but it remained largely irregular and ineffective. Furthermore, unlike in the private sector where the PriSeC (Private Sector Development Committee) was established, a high-level coordinating platform for poverty alleviation which would have brought together all stakeholders including public institutions and donor agencies, was never established.

iii. Fragility was largely ignored in policy decisions and economic strategies until very recently: The ANDS, NPPs, and sectoral development strategies throughout the years did not take into account aspects of 'fragility' in the country. Even donor agencies and international institutions largely ignored the fragile context when designing their programmes and operations. Only in 2017, the World Bank treated "fragility" as one of the selectivity filters in its Country Partnership Framework (CPF) for identifying the strategic pillars of its engagement in Afghanistan. Prior to this, the World Bank did not systematically sensitise its development framework/ approach to aspects of fragility in the country (Joya and Payenda, 2021). Therefore, with development policies ignoring the fragility context in the country throughout most of the years, the impact of policy measures – including anti-poverty interventions – was limited and unsustainable.

iv. Poverty alleviation efforts were untargeted and broad, with limited effectiveness: Instead of focusing on a few policy measures with largest expected impact, the government invested the resources in a wide range of programmes, interventions, and strategies, which – given the limited technical capacity in government agencies – did not lead to desired outcomes. Furthermore, the pursuit of a comprehensive strategy prevented promising interventions from attaining economies of scale, because financial resources were invested in smaller amounts in a large number of programmes.

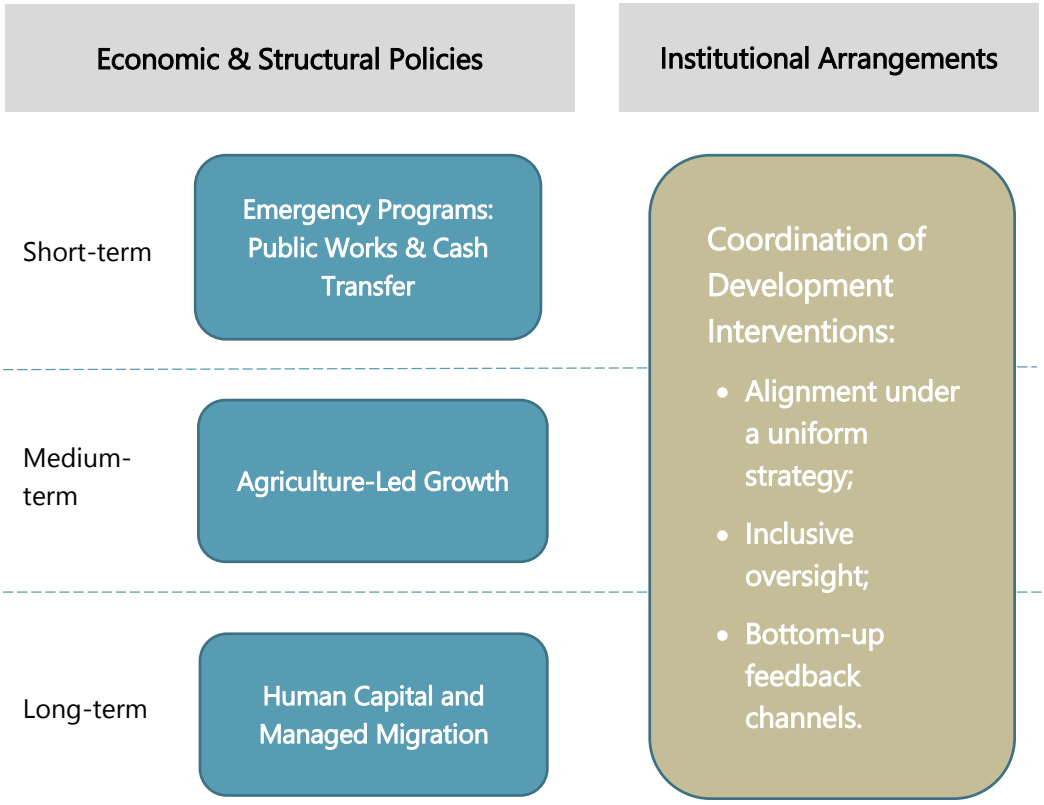
v. Political economy aspects hindered the execution of pro-poor policies: Vested interests and elite capture of resources and policymaking distorted efforts away from the fight against poverty (Joya, 2022). Development of inclusive economic institutions, including pro-poor budgeting and transparency and accountability, made least progress in the past two decades. Yet, projects, programmes, and operational arrangements that were devoid of any justification from an economics, development, or management point of view made it through.

B. Policy Framework

Drawing on the lessons learned from the policy failures of the past two decades, as well as on the results of our econometric analysis, we develop a policy framework that we believe can better tackle poverty in Afghanistan given the economic and institutional underpinnings. The framework, as shown in Figure 35, not only consists of economic and structural policies, but also suggests some institutional arrangements to ensure increased effectiveness in development efforts and policies. Given limited financial resources, as well as capacity constraints for policy implementation in the country, only few targeted policies have been proposed here.

These policies are selected based on the criteria that (i) they are expected to yield largest poverty alleviation impact in the short, medium and long terms; (ii) they effectively address the most important correlates of poverty in Afghanistan as identified by the econometric analysis in Section 2; (iii) they are expected to generate more 'inclusive' outcomes, and not necessarily maximised growth impact; and (iv) they are sensitised to the drivers of fragility in the country.

Figure 35: Proposed policy framework for poverty alleviation



C. Economic and Structural Policies

i. Short-term: Emergency programmes

Political developments in the second half of 2021 have led to an economic collapse. Political uncertainty and a banking crisis have taken a toll on private consumption and investment. Government spending has halted, as foreign aid – including both development assistance and security aid – is suspended while revenue collection has fallen by more than half. Around 700,000 individuals who were employed by the government in civilian and security sectors have lost their incomes. While around 300,000 military personnel have permanently lost their jobs, the salaries of more than 400,000 civil servants have not been fully reimbursed since August 2021. With such a massive decline in domestic demand, businesses in many sectors have suspended their operations leading to an increase in unemployment and a further decline in income levels. The liquidity crisis in the banking sector has further exacerbated the economic crisis.

In these circumstances, poverty has risen to historically unprecedented levels. An analysis by the United Nations Development Programme showed that the poverty rate was predicted to increase by 25 percentage points in 2021 if the gross domestic product (GDP) was to contract by 13 percent (UNDP, 2021). This means that the poverty rate might have increased from 47 percent in 2020 to as much as 72 percent by end-2021. Results of the econometric analysis also showed that poor households are often hit by adverse shocks, and in response they retreat to adaptation strategies that may further exacerbate their vulnerability in the future, such as reducing diet, cutting down expenditures, selling assets, or borrowing.

Given the intensity of the crisis, it is therefore vital to roll out emergency programmes to provide urgent income support to poor populations. Public works (such as 'cash for work' or 'food for work') and 'unconditional cash transfer' programmes can be rolled out, as they are proven to be effective in providing immediate relief to poor and vulnerable households and increasing resilience.

Both public works and cash transfer programmes have precedence in Afghanistan. Evidence shows that such programmes – most of which were implemented until 2012 – were broadly successful in addressing urgent humanitarian needs, reducing hunger, and preventing households from resorting to extreme coping strategies (Harvey et al., 2010; Samuel Hall, 2013, 2014). On the contrary, widespread anecdotal evidence indicates that the GoIRA's food distribution programmes after the Covid-19 pandemic in 2019 and 2020 were inefficient and somewhat unsuccessful due to huge delays in procurement and distribution of food items as well as alleged cases of corruption and misuse. Therefore, in-kind assistance in public works programmes, such as a 'food for work' scheme, should only be used in remote areas where food markets are limited and/or access to financial services are restricted.[6]

While the on-going liquidity crisis in the banking sector may restrict a large-scale roll-out of cash transfer programmes, they should still be prioritised over in-kind assistance (i.e., food distribution) in selected areas (and in situations) where it is feasible. Cash transfer programmes must not only be seen as humanitarian relief operations; they can be used as a two-pronged policy tool to generate both income support as well as to improve liquidity in the economy. Now that humanitarian assistance dollars are physically being transported to the country by the United Nations, and they are exchanged into local currency by the Central Bank, it is possible to devise and roll out cash transfer programmes, albeit at limited scales. Distribution of cash to the public through the banking sector infrastructure may well

[6] Biruni Institute staff had assessed the feasibility and effectiveness of cash transfer programmes (versus in-kind assistance operations) in Afghanistan in a note published in the July 2020 edition of the Afghanistan Economic Outlook. See Biruni Institute (2020).

improve the liquidity position of the commercial banks and may marginally contribute to restoring public confidence in the banking sector.

ii. Medium-term: Agriculture-led growth

Agriculture has the highest potential for poverty alleviation, sustainable growth, and employment generation in Afghanistan. There are several reasons why an agriculture-led growth policy could be the single most effective strategy to fight poverty in the medium term.

First, results of the econometric analysis showed that households who rely on agriculture as their main source of income are more likely to be poor compared to those who rely on incomes drawn from manufacturing, services, or trade.[7] This is because about a third of the poor population with employed heads are engaged in the agriculture sector (CSO, 2018), with the average income in the agriculture sector being considerably lower than in other sectors. Agriculture is also the largest source of income as 44 percent of Afghan households rely on agriculture activities, and is the largest provider of employment in the country as 44 percent of all jobs are in the agriculture sector (CSO, 2018). Moreover, agricultural activities are accessible to unskilled and uneducated workers who make up a large portion of the poor population in the country. As such, gains from an agricultural growth is likely to be more equally distributed in the economy, resulting into a more 'inclusive' economic growth.

Second, as previously discussed in Section 1.A, the growth model employed in the past two decades in Afghanistan failed to be pro-poor. While income per capita nearly tripled between 2002 and 2020 and the average growth (of 5.8 percent) was significantly higher than the population growth (of 2.5–3.0 percent), poverty failed to drop. On the contrary, poverty rate increased from 33.7 percent in 2007 to 47.1 percent in 2020. In fact, the largest contribution to economic growth had come from the services sector, which on average accounted for 3.4 percentage points of the average aggregate growth of 5.8 percent experienced between 2003 and 2020. Industry and agriculture sectors' contributions were respectively 1.6 percentage point and 0.8 percentage point. However, if we compare the pre-Transition period (2003-2013) to the post-Transition period (2014-2020), we notice that agriculture remained the most resilient source of income in the aftermath of the Security Transition. As shown in Table 5, agriculture remained the largest contributor to economic growth in the post-2014 period when domestic demand was weak and investor confidence was suppressed in the wake of the growing insecurity and conflict, as well as heightened political uncertainty. Although agriculture sector's growth has been highly volatile from one year to another, the 'resilience' and 'sustainability' of agricultural growth over the long term are necessary for a more inclusive and pro-poor growth pattern.

Table 5: Sectoral contribution to real GDP growth (in percentage points)

	Pre-Transition (2003-2013)		Post-Transition (2014-2020)	
	Average	Cumulative	Average	Cumulative
Agriculture	0.7	7.9	0.8	5.7
Industry	2.3	25.6	0.4	2.8
Services	5.6	62.1	-0.1	-0.6

Source: Biruni Institute staff calculations based on NSIA and World Bank estimates of real GDP for 2003-2018, as well as Biruni Institute staff estimates for 2019 and 2020.

Third, simulation results from CGE models show that agriculture has the highest potential for economic growth in Afghanistan (Nassif et al., 2014; Nassif et al., 2018). Improved agricultural productivity could

[7] See section 2.B.ii, page 39.

increase economic growth to an average 5.8 percent annually for a foreseeable future. This is because agriculture has the largest sectoral linkages with the rest of the economy. Major manufacturing industries in Afghanistan, such as food processing and carpet production, are agriculture-based, and almost all export items of the country are agriculture-related commodities or products. Furthermore, education levels and technological know-how are too low in Afghanistan, which does not allow leapfrogging of the classic pattern of structural transformation, either through industrialisation or service-based economic transformation. Limited production of primary goods and the prohibitive cost of trade also soother the development of a competitive manufacturing sector (Nassif et al., 2014).

Therefore, pursuing an agriculture-led growth could be the most effective poverty alleviation strategy in the medium term. An agriculture-led growth requires prioritizing agriculture in the growth strategy and in public investments, as well as viewing agriculture productivity as the ultimate goal of policy interventions. In Afghanistan, enhancing growth in the agriculture sector will require more attention to improving irrigation water conveyance, area expansion in both irrigated and rain-fed agriculture, public investment in extension services, and reforms in land policy. Development of supply chains can be fostered by supporting access to credit, marketing and technology.

Given the likelihood of reduced financial resources in the foreseeable future (as it is already the case), it is important to devise a more focused and targeted strategy to improve agriculture productivity. An Agriculture Sector Review produced by the World Bank (2014) suggested that, rather than trying to pursue a full-fledged intervention in the sector, it may prove more realistic and effective to focus the efforts on a few 'priority' crops and their respective value chains. Based on the criteria such as food security, potentials for import substitution, leverage for job creation and value addition, and potential for productivity catch-up, the following crops/activities should be prioritised for targeted interventions:

(i) irrigated wheat,
(ii) horticultural crops (fruits, nuts, and vegetables), and
(iii) intensive livestock production (milk, eggs, and poultry meat) in peri-urban areas.

Analysis suggests that the above crops/activities can more than double agriculture output and generate about 1.3 million full-time equivalent jobs in a period of ten years (World Bank, 2014). Such a targeted strategy will make the most effective use of financial resources available, by supporting agricultural activities with largest potentials for an inclusive economic growth and employment – and hence for poverty alleviation – in the medium term.

iii. Long-term: Human capital and managed labour migration

The econometric analysis in Section 2 showed that education remains one of the most important determinants of poverty in Afghanistan: education attainment (of the household head) substantially reduces the probability of being poor for the household, communities with no primary or secondary school are more likely to have higher rates of poverty, provincial districts where average household spending on education is higher – driven by economic or cultural factors – are more likely to experience lower rates of poverty, and an increase in public investment in primary and secondary schools is associated with a lower probability of being poor for the district residents. This result is in conformity with a large global literature – both empirical and theoretical – on the long-run relation between education and poverty.

We also found that investment in educational infrastructure will yield better poverty alleviation effects if it is coupled with targeted policies (such as conditional cash transfer programmes) that would encourage people's willingness and capacity to spending on education.

Hence, education is one of the most effective strategies to fight poverty in the long run in Afghanistan. Currently, nearly 70 percent of the working-age population is illiterate, and – despite impressive gains in human capital in the past two decades – the overall education attainment gap and the gender gap still remain very large. A long-term national strategy is therefore important to improve educational outcomes. While GoIRA had consecutively developed five-year national education strategic plans since 2006, which also covered TVET programmes, a crucial element of success for such strategies is a long-term commitment to sustainable allocation of fiscal resources to the education sector.

According to the AFMIS data, over the course of ten years, the share of budget expenditure for education[8] declined from 17.5 percent in 2010 to 7.8 percent in 2019. Even if we exclude security expenditures, spending on education declined from 30 percent of total non-security budget spending to 11.6 percent over the same period. As it is often the case in most countries, public spending in infrastructure, security/defence, and other sectors is often prioritised due to various political economy reasons, and as a result spending on education is often overlooked. However, to improve educational outcomes in the long run, especially in Afghanistan where attainment gaps are already too low, allocating a sufficient share of budget resources to the education sector, as well as ensuring that it is maintained over the years, is crucial.

Another challenge for improving the human capital in Afghanistan is the youth bulge and the growing labour force. Every year, about half a million entrants join the labour force in Afghanistan, expecting employment. Already, 39.5 percent of the labour force were either unemployed or underemployed in 2016-17 (CSO, 2018) and this figure might have doubled by now.[9] If we suppose that going forward Afghanistan will experience an economic growth rate similar to what it experienced between 2014 and 2019 (basically the period after the Security Transition and prior to the Covid-19 pandemic), which was an average of 2 percent per year – well below the population growth rate of 2.5 percent per year, the economy will never be able to produce sufficient jobs and employment for the growing labour force in the foreseeable future. Even if we assume a very optimistic scenario (e.g., political stability, extractive sector to develop, etc.), institutional predispositions and demographic characteristics of Afghanistan (i.e. high literacy and poor technological know-how) will not allow a full structural transformation of the economy that would generate double-digit growth rates. _The agriculture sector, despite having huge employment potential, will not be able to absorb the growing labour force all alone.

A managed labour migration can be a best alternative to provide employment opportunities for the growing labour force (Nassif et al., 2018). Currently, migration in Afghanistan is largely unmanaged, with Iran and Pakistan being the top destinations. Irregular migration not only increases the risks of smuggling, abuse and exploitation, but it also leads to poor wage outcomes and lower remittances. Establishing legal channels through which Afghans could migrate to work abroad, and return back freely, would maximise the economic benefits of migration (i.e. sustained remittances, skills transfers, better wages, etc.). The current high labour demand in the Gulf countries and in Turkey presents opportunities for managed labour migration.

A managed migration also has direct poverty alleviation effect as it maximises remittance inflows. CGE model simulations by the World Bank have shown that managed migration could increase official remittances for Afghanistan to 18.5 percent of GDP by 2030, which is roughly the level of annual civilian foreign aid that the country received prior to 2021 (Nassif et al., 2018). Our econometric analysis in

[8] Based on the "functional" classification of expenditures (i.e. COFOG), rather than sectoral allocation of expenditures by line ministries.

[9] This estimate is based on the results of the recent Welfare Monitoring Survey by the World Bank (2022), which shows that the share of 'unemployed' household heads doubled from 7 percent of labour force in Oct-Dec 2016 to 16 percent in Oct-Dec 2021.

Section 2 confirmed that remittances are a source of income that prevents households from falling into poverty more effectively than agricultural incomes in Afghanistan.

D. Institutional Arrangements: Coordination of Development Interventions

In the initial years of the post-2001 period, almost all development assistance was disbursed and executed off-budget due to lack of qualified human resources and technical and administrative capacities in the public sector. Donor agencies, international institutions (such as the UN), and international and local NGOs stepped up not only to support the reconstruction process, but also to support service delivery in health, education, agriculture, rural development, and even urban development sectors. These organisations directly recruited the limited pool of professional and managerial talent in the country outside the public sector, offering competitive salaries that were several times higher than the civil service wages. In a matter of few years, a 'parallel' civil service (also called, 'second' civil service) emerged who were engaged in the delivery of public services in various sectors (sometimes sitting in line ministries), but were directly paid by the donors.

Besides the wage distortion that such off-budget funding created, leading to undermining the development of an efficient and qualified civil service, it also led to miscoordinations in development programming between government and non-state actors (donors and NGOs). It resulted in huge inefficiencies and redundancies in aid expenditures (Joya and Payenda, 2021). Although the government was quick enough to develop in 2006 'The Afghanistan Compact' vision document to ensure coordination in the planning and execution of development assistance and establish the Joint-Coordination and Monitoring Body (JCMB), it failed to contain the deficiencies related to off-budget aid (Byrd, 2007). The 'wage gap' between the two parallel civil services, lack of coordination and oversight on aid resources, and elite capture of donor funds through the networks of local NGOs quickly led to public grievances. The term *NGO-sâlârî* (literally translated as "NGO-cracy", coined in contrast to "Democracy") was quickly popularized in local media and civil society debates.

Once again, Afghanistan risks facing a similar situation as it did in the early 2000s. Since the collapse of the Islamic Republic and the political regime change, a substantial portion of technical and professional cadre – who were trained in the past two decades – have fled the country. Line ministries now face stark challenges of limited capacity in the design, execution and monitoring of development projects. When – or, if – development assistance resumes, there will be literally no technical capacity in line ministries to engage with the donor agencies and international institutions right upfront to coordinate the design, programming and implementation of the development projects. To fill in the gap, the donor agencies will need to rely – once again – on the pool of NGOs to deliver the development assistance.

Given the circumstances, the de-facto administration in Kabul must not restrict off-budget aid disbursements by the donors and must not restrict the operations of the NGOs, as there is no other alternative. Nonetheless, the donor community must at least ensure that some level of coordination is put in place among the donor agencies and international institutions to prevent redundancies and increase complementarities in development interventions. Furthermore, the donors should **ensure that their future development interventions in Afghanistan are aligned across-the-board with a uniform development strategy for the country**. For instance, the economic and structural policies proposed in this report can be used as a guiding strategy for poverty alleviation in Afghanistan.

With the disengagement of the World Bank since August 2021 from Afghanistan, the UNAMA and the UNDP have stepped up to play a coordinating role for humanitarian operations in Afghanistan. While their intermediary role has been helpful, **more inclusive and formal mechanisms** should be established so that not only members of the donor community but also local civil society organisations, including

NGOs, think tanks and sub-national community entities, can engage in. Any inclusive coordination mechanism must be equipped with:

(i) proper information sharing channels through which the civil society organisations, such as NGOs, think tanks and sub-national community entities, can have a transparent oversight on the use of development assistance funds, and
(ii) bottom-up channels of feedback transfer so that local communities and beneficiaries of development projects can contribute to increase the efficiency in development projects.

These two features for an inclusive coordination mechanism will enhance the development impact and the 'value-for-money' of the donor funds.

This proposal does not call for the de-facto administration, Islamic Emirate, to have an enhanced role in the proposed coordinating body, due to both lack of technical capacity within the appointed political leadership in line ministries, as well as social grievances that may accumulate. Instead, this proposal calls for a more pro-active engagement of civil society actors in the programming and oversight of development projects, assuming that it will form positive public sentiments (through a sense of common ownership of aid resources) which could, in turn, reduce grievances and strengthen social solidarity in the medium term.

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Appendix I: Description of the variables employed in the econometric model

I. Individual-level and household-level predictors of poverty

Active_L1 (dich.): Household head is active (versus he/she is inactive)

Active_L2 (dich.): HH second in-rank (usually, the wife) is active (versus being inactive)

Age (cont.): Age of the HH head.

Dependency (cont.): Dependency ratio as share of the HH persons that are inactive (young + old)

Distance to paved road (cont.): Distance of the HH to the closest paved road

Electricity (dich.): HH has access to electricity (versus no access)

inc_diver (dich.): HH has two diversified sources of income (versus one single source)

inc_diver_high (dich.): HH has three diversified sources of income (versus one single source)

L1_woman (dich.): HH head is a woman (versus being a man)

Main inc_manuf (dich.): HH's main income is from manufacturing (versus agriculture)

Main inc_remit (dich.): HH's main income source is remittances (versus agricultural income)

Main inc_serv (dich.): HH's main income is from services (versus agriculture)

Main inc_trade (dich.): HH's main income is from trade activities (versus agricultural activities)

Married (dich.): HH head is married (versus non-married)

Minutes_to_water (cont.): Distance to safe/drinking source of water in walking minutes

pri_ed_HH (dich.): HH head has primary education (versus being uneducated)

Returnee (dich.): HH head is a returnee (versus not being a returnee)

Rural (dich.): HH lives in a rural area (versus living in a urban area)

s2 (dich.): HH was surveyed in summer (versus in spring)

s3 (dich.): HH was surveyed in autumn (versus in spring)

s3 (dich.): HH was surveyed in winter (versus in spring)

sec_ed_HH (dich.): HH head has secondary education (versus being uneducated)

Shock_event (dich.): HH has experienced at least once adverse shock in the previous year (versus not affected by shock)

Size_HH (cont.): Household size in numbers of persons

ter_ed_HH (dich.): Hhhead has tertiary education (versus being uneducated)

II. Community (Shura) level, district-level and province-level predictors of poverty

Av_displ_prov (cont.): Average number of displaced people in the province (for each surveyed HH)

Ave_spending_educ_district (cont.): Average HH education spending on education in a provincial district

Conf_civil_dths (cont.): Number of conflict-related civilian deaths in a district

Conf_fatalities (cont.): Number of military personnel fatalities in a district

expdr_usaid (cont.): Annual amount of US aid expenditures in a province

Gov_spend (cont.): Budget expenditures in a province

Health_fac_L (cont.): Number of health facilities in the district

Nogovinv_shur (dich.): There has been no govt development project in the Shura during the past year (versus being at least one project)

Nohealthfac_shur (dich.): There is no health facility in the Shura (versus being at least one facility)

Non_plain (dich.): The Shura is not located in a plain landscape (versus being in a plain area)

Noprischool_shur (dich.): There is no primary school in the Shura (versus being at least one school)

Noroad_shur (dich.): There is no paved road in the Shura (versus being a paved road)

Nosecschool_shur (dich.): There is no secondary school in the Shura (versus being at least one sec. school)

Opm_area (cont.): Hectares of land under poppy cultivation in a district

Opm_prod (cont.): Metric tonnes of opium production in a region

sch_pri_lsec_L (cont.): Number of primary and secondary schools in the district

Tert_educt_L (cont.): Number of tertiary education institutions in a district

wage_shur (cont.): Average level of unskilled wage in the Shura (in lcu)