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Jonathan D. Moyer

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Jonathan D. Moyer

Frederick S. Pardee Center for International Futures, Josef Korbel School of International Studies, University of Denver, 2201 South Gaylord Street, Denver, CO 80201, USA

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ABSTRACT

Intrastate conflict generally undermines human development but its effect on global poverty across different income thresholds remains poorly understood. This paper analyzes how many people will live in poverty due to intrastate civil conflict in 2030, 2050, and 2070 using the International Futures model and shared socioeconomic pathways, forecasting 12 scenarios for 179 countries. A baseline conflict scenario leads to an additional 148.2 million (range: 50.7 to 186.0 million) people living in extreme poverty (< $1.90 per day) due to conflict by 2030 compared with a scenario where conflict is eliminated starting in 2022. These conflict-attributable poor represent 20.1% of the population in extreme poverty at that time, with the majority living in South Asia followed by Africa. By 2050 the population living in conflict-attributable poverty increases to 164.9 million (range: 4.4 to 376.5 million), representing 32.7% of the total extremely poor population at that time with the majority living in Africa. While future conflict will be responsible for hundreds of millions of people living in poverty, its elimination is not a panacea for achieving development targets: even in a scenario with no intrastate conflict from 2022 to 2030 the population living in extreme poverty is projected to be 6.9%, well above the target threshold of 3% for achieving the first *Sustainable Development Goal*.

1. Introduction

Intrastate conflict negatively impacts human development, destroying lives and livelihoods (Akresh et al., 2011; Ghobarah et al., 2003, 2004; Guerrero Serdan, 2009; Justino, 2012; Swee, 2015), reducing economic activity (Collier, 1999; Costalli et al., 2017; Gates et al., 2012) and increasing inequality (Bircan et al., 2017). The future distribution of conflict could significantly impact the sustainable development agenda, harming the achievement of the United Nations' *Sustainable Development Goals* (SDGs) (UN DESA, 2020) or the African Union's *Agenda 2063* (African Union, 2015). Because conflict is such an important driver of human development, forecast models have become an important area of academic research (Baillie et al., 2021; Fearon & Laitin, 2003; Goldstone et al., 2010; Hegre et al., 2021; Joshi et al., 2015). While many of the effects of intrastate conflict on human development are understood, researchers have yet to quantify its impact on poverty, driven earlier by limits in data availability (Gates et al., 2012, p. 1718) and more recently by the need to place the study of the impact of conflict on poverty in a more integrated analysis of human and social development.

The first SDG goal is to "end poverty in all its forms everywhere", a ranking that reflects its prominence in the field of development[1] (UN DESA, 2020). Its importance as an outcome indicator has directed large volumes of research attempting to understand poverty alleviation strategies (Azzarri & Signorelli, 2020; Bargain & Aminjonov, 2021; Caldés et al., 2006; Larsen & Lilleør, 2014; Loayza & Raddatz, 2010). Understanding the future distribution of poverty has also become an important area of research (B. B. Hughes et al., 2009; Kharas, 2020; Lakner et al., 2021; Moyer, Mapes, et al., 2022; Ravallion, 2013) though approaches to measuring poverty and using this as an indicator of human well-being have been criticized (Moatsos & Lazopoulos, 2021; Pogge & Reddy, 2005; Ravallion, 2008).

How much poverty will be driven by conflict in 2030, 2050, and 2070 at a global, regional and country level? If intrastate conflict is responsible for a very large share of the population living in poverty, eliminating war should be elevated as a development priority and could represent a silver-bullet for achieving the SDGs. Alternatively, future conflict may have a small effect on increasing levels of poverty or only in particular locations. This alternative finding

[1] While the goal is to eliminate poverty the target indicator is typically operationalized as reducing the share of the population living on less than $1.90 per day (measured in 2011 USD in PPP terms) to less than 3%.

E-mail address: jmoyer@du.edu

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could shift development policies by requiring more contextualized choices that highlight the importance of conflict as a driver of poverty in some instances but require very different strategies in countries with low conflict and high poverty.

To answer these questions, this paper uses the International Futures (IFs) model (B. B. Hughes, 2019; B. B. Hughes et al., 2009), an integrated assessment tool with core strengths in modeling patterns of human and social dynamics that are embedded in agricultural, environmental, and energy systems. Here, the IFs model dynamically forecasts the probability of conflict, economic growth, the distribution of income, demographics, and levels of poverty for 179 countries by comparing two scenarios, one in which conflict is eliminated starting in 2022 and a second in which conflict continues along a baseline trajectory through 2070. To frame the uncertainty embedded in this analysis, this paper uses shared socioeconomic pathways scenarios (SSPs). The SSP scenario framework presents five alternative scenarios with uncertainty across dimensions representing future challenges to mitigation and adaptation in the face of climate change. These scenarios are meant to frame a broad range of uncertainty and this paper uses model results from Dellink et al. (2017b), Rao et al. (2019), Hegre et al. (2016) and KC and Lutz (2017) to model with integration the same variables and countries to frame uncertainty in the future magnitude and distribution of conflict, economic growth, income inequality, population and overall levels of poverty.

2. Background

Intrastate conflict has a well-studied relationship with changing patterns of economic growth, with literature showing that conflict reduces economic output during conflict and, in many cases, after conflict has ended. Collier's well-known study identified that conflict reduces GDP by 2.2 % during conflict years, and that a 15-year conflict will reduce GDP per capita by 30 % relative to a country without conflict (1999). Gates et. al (2012) show that conflict diminishes multiple dimensions of human development, lowering levels of nutrition, life expectancy, GDP per capita, infant mortality, schooling, and access to water and sanitation infrastructure. These authors highlight the impact of conflict on development and show that a five-year conflict lowers GDP per capita by 10 % relative to a no-conflict scenario. More recent work has emphasized the heterogenous nature of the impact of conflict on development, with Bova et al. showing that conflict reduces GDP by 9.1 % (2016), Costalli et al. showing that conflict can reduce annual GDP per capita on average of 17.5 % (2017), and de Groot et al. showing that the elimination of conflict in 1970 would lead to a 12 % greater GDP by 2012 (2022) (Bove et al., 2016).

While conflict reduces economic activity by destroying the ability to produce, work and consume, it also changes the distribution of resources within a society. While not as widely explored as the effect of conflict on growth, inequality effects were analyzed by Bircan et al. (2017). These authors find that conflict increases the level of inequality in countries and that these effects persist for long periods of time, peaking ten years after the end of the conflict with a 2.1 % increase relative to pre-conflict levels measured using the Gini coefficient on income inequality.

Forecasts of domestic conflict have been widely published in academic literature starting with early work from Fearon and Laitin (2003) highlighting the importance of levels of development as a driver of conflict onset. These studies were followed by others that identify alternative drivers of conflict onset, including work focusing on the importance of political institutions (Goldstone et al., 2010), horizontal inequalities (Bahgat et al., 2017; Cederman et al., 2011a; Stewart, 2005), and social movements (Cederman et al., 2011b; Forsberg, 2014; Rüegger, 2019). These models have been shown to be accurate at making out-of-sample predictions (Goldstone et al., 2010; Hegre et al., 2021) though are not a panacea for predicting onset (Bowlsby et al., 2019; Moyer, Mathews, et al., 2022).

Many of these modeling efforts use a two-year time horizon, though longer-term projections of armed conflict do exist. Hughes et al. (2014, p. 5) produced a long-term country level projection using drivers measuring development, governance and trade. Their base case projection forecasts reductions in future conflict driven by general improvements in development across multiple dimensions (Joshi et al., 2015).

Hegre et al. (2016) produced long-term projections of the probability of intrastate conflict driven by these scenarios and variables associated with the SSPs (O'Neill et al., 2014). The five scenarios (SSP1-SSP5) frame future uncertainty associated with challenges to adaptation and mitigation associated with climate change. SSP2 represents a "middle-of-the-road" scenario that reflects a continuation of development and moderate challenges to adaptation and mitigation (Moyer & Hedden, 2020). The third scenario, SSP3, is a world of extremely high challenges to both adaptation and mitigation, while the first scenario, SSP1, reflects a world of low challenges to adaptation and mitigation. The fourth scenario, SSP4, represents high challenges to adaptation and low challenges to mitigation and is a world characterized by increasing inequality. The fifth scenario, SSP5, represents a world of low challenges to adaptation and high challenges to mitigation and is a world of extremely high economic growth. The SSP scenarios are rooted in qualitative narratives designed to be used in conjunction with the representative concentration pathways (RCPs) climate model scenarios to support research into long-term sustainable human development (van Vuuren et al., 2011).

Various researchers have operationalized variables across these five scenarios that can be used as inputs into other research efforts. Hegre et al. (2016) gathered data that corresponded with previously forecast SSP series to build a historical predictive model for intrastate conflict onset and then used the SSP series to forecast country-level conflict through 2100 (Dellink et al., 2017b; Jiang & O'Neill, 2017; Kc & Lutz, 2017; Rao et al., 2019).

3. Methodology

This paper undertakes the study of intrastate conflict's impact on poverty using two distinct but related modeling steps. The first step develops two scenarios in the IFs model, one representing a central tendency for future conflict (*IFs Conflict* scenario) and the other representing a world without conflict (*IFs No Conflict* scenario). The strength of the IFs approach is that it dynamically connects each model component in an integrated framework, leading to two main advantages. First, a deeply integrated approach produces results that have internal logical consistency, where change in one factor influences all other factors. Second, broadly integrated approaches to modeling produce much more long-term nonlinear and dynamic behavior, providing unique insights on the future development compared with more simple and linear models, adjusting for conflict costs in a single framework (Buhaug & Vestby, 2019).

The second step frames uncertainty around the drivers of conflict and poverty by introducing conflict and no-conflict versions of the SSP scenarios (see Table 1). The SSPs frame future development across five distinct pathways that represent a broad set of potential socioeconomic outcomes. They use two distinct dimensions of uncertainty for their analysis, namely challenges to mitigation and adaptation in the face of climate change. The SSP scenarios are used to exogenously drive poverty within the IFs system.

Table 1
Scenarios used in this analysis.

Scenario Name	Description	Challenges to Adaptation	Challenges to Mitigation
IFs No Conflict	The IFs *Current Path* with the elimination of intrastate conflict starting in 2022.	N/A	N/A
IFs Conflict	A dynamic scenario representing a "most likely" development future within and across key issue areas representing agriculture, climate, demographics, economics, education, energy, governance, health, infrastructure, and international politics. Population growth similar to the UNPD medium variant, economic growth that remains low for high income countries with convergence assumptions, slow improvement in inequality and slowly reducing patterns of intrastate conflict probability.	N/A	N/A
SSP1 No Conflict	*Sustainability–Taking the green road.* Moderate economic growth, slowing population growth, and a reducing threat of intrastate conflict.	Low	Low
SSP1 Conflict	Same as *SSP1 No Conflict* but with exogenous change to the GDP per capita (Dellink et al. (2017) and inequality (Rao et al. (2019) using conflict projections (Hegre et al. (2016)).	Low	Low
SSP2 No Conflict	*The middle-of-the-road.* Challenges persist but are not overwhelming leading to moderate outcomes across all indicators.	Moderate	Moderate
SSP2 Conflict	Same as *SSP2 No Conflict* but with exogenous change to the GDP per capita (Dellink et al. (2017) and inequality (Rao et al. (2019) using conflict projections (Hegre et al. (2016)).	Moderate	Moderate
SSP3 No Conflict	*Regional rivalry: a rocky road.* Poor economic outcomes and higher population growth, more inequality and greater challenges to sustainable development abound.	High	High
SSP3 Conflict	Same as *SSP3 No Conflict* but with exogenous change to the GDP per capita (Dellink et al. (2017) and inequality (Rao et al. (2019) using conlfict projections (Hegre et al. (2016)).	High	High
SSP4 No Conflict	*Inequality: a road divided.* High levels of within and across country inequality, with slow economic convergence and relatively high levels of instability.	High	Low
SSP4 Conflict	Same as *SSP4 No Conflict* but with exogenous change to the GDP per capita (Dellink et al. (2017) and inequality (Rao et al. (2019) using conflict projections (Hegre et al. (2016)).	High	Low
SSP5 No Conflict	*Fossil fuel development: taking the highway.* Extremely high economic growth that is fossil fuel based with high income low fertility and low-income high fertility	High	High
SSP5 Conflict	Same as *SSP5 No Conflict* but with exogenous change to the GDP per capita (Dellink et al. (2017) and inequality (Rao et al. (2019) using conflict projections (Hegre et al. (2016)).	High	High

Twelve scenarios are used in this analysis, six representing a future with conflict and six representing a future without conflict (see Table 1). The methodology used to develop each of these scenarios is outlined further in this section starting with the IFs model and then further introducing the SSP scenarios used.

3.1. International Futures (IFs) integrated assessment model

Fig. 1 shows the key IFs model structures used in this analysis. The modeling framework projects the future probability of intrastate conflict at the country level driven by structural factors that include representations of development, governance, and trade (B. B. Hughes et al., 2014). Changing patterns of intrastate conflict interact with economic production/consumption models as well as models of domestic inequality (B. B. Hughes, 2019). Additionally, a demographic model projects the future of poverty headcounts (Moyer, Mapes, et al., 2022). Fig. 1 highlights some of the dynamic interlinkages in IFs, including an interaction between intrastate conflict and economic systems, between demographic and economic systems, and a broader feedback loop between changing patterns of economic and demographic activity along with the proximate drivers of intrastate conflict.[2]

The IFs system is fully integrated and connects models representing agriculture, climate, conflict, demographics, education, energy, gender, governance, health, infrastructure, international relations and technology related sub-modules and has been developed over many decades led primarily by Barry Hughes (2019; Hughes et al., 2021). Descriptions of the key model elements that are included in this manuscript have been previously published and document representation of the probability of civil war onset (B. B. Hughes et al., 2014; Joshi et al., 2015), economic growth (Burgess et al., 2022; B. B. Hughes, 2019; B. B. Hughes & Narayan, 2021), inequality (B. B. Hughes, 2019), demographics (B. B. Hughes, 2019), and levels of poverty (B. B. Hughes et al., 2009; Moyer, Mapes, et al., 2022). Model data come from a wide range of sources including estimates where data are not available.

The intrastate conflict module (B. B. Hughes et al., 2014; Joshi et al., 2015) forecasts the country-level probability of intrastate conflict using data measuring conflict onset from the Political Instability Task Force (PITF) (Schrodt & Ulfelder, 2016) and structural drivers that have been historically associated with the onset of significant civil conflict (Baillie et al., 2021; Fearon & Laitin, 2003; Goldstone et al., 2010; Hegre et al., 2016, 2021).

$$SFINTLWARALL_{c,t} = (0.142 + 0.0012 * INFMOR_{c,t} - 0.006 * TRADEOPEN_{c,t} + F(DEMOCPOLITY_{c,t}, YTHBULGE_{c,t}, GDPRMA_{c,t}, SFINTLWARMA_{c,t}))$$

Where SFINTLWARLALL is the probability of state failure (civil war, politicide, genocide, and revolutionary war), INFMOR is infant mortality, TRADEOPEN is exports plus imports divided by GDP, DEMOCPOLITY is the Polity measure of regime type, YTHBULGE is the demographic measure of "youth bulge", GDPRMA is a moving average of GDP growth rates and SFINTLWARMA is a historical moving average of intrastate conflict onset as measured by PITF (B. B. Hughes et al., 2014, p. 84) *subscript c is the country and t is time.*

IFs includes a recursive dynamic computable general equilibrium model structure to forecast long-term patterns of economic growth (Burgess et al., 2022; B. B. Hughes, 2019; B. B. Hughes & Narayan, 2021; Moyer, Mapes, et al., 2022). It is structured with a Cobb-Douglas production function (1928), Solow residual (1956), six capital sectors along with labor by skill level both initialized using GTAP data (Global Trade Analysis Project, 2018). All financial flows are tracked following a social accounting matrix (SAM) (Keuning & de Ruuter, 1988) which includes an input–output table (Adam, 1995).

[2] For example, levels of infant mortality have been found to be a significant driver of the probability of intrastate conflict. As economic activity changes and demographic drivers adjust, the IFs Health system (B. Hughes et al., 2011) changes future levels of infant mortality which then drive the future probability of intrastate conflict. There are many examples of such dynamic behavior in the IFs system used for this analysis.

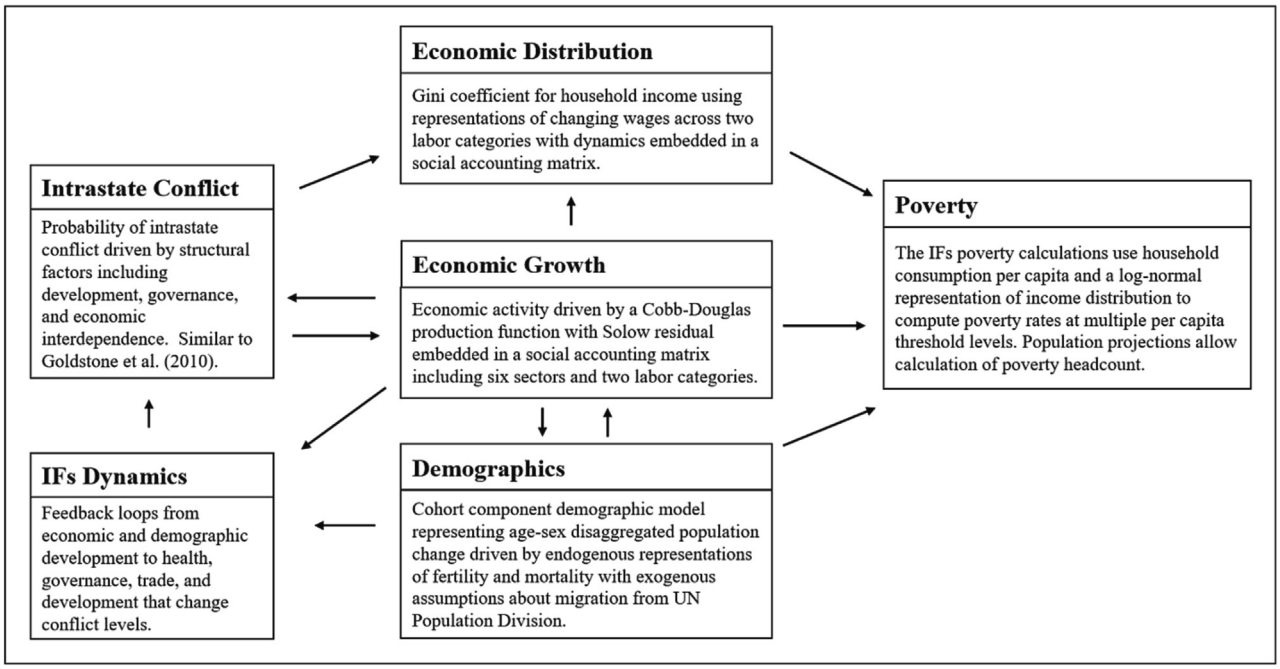

Fig. 1. Overview of IFs modeling approached used in this analysis (connections are a sub-set of the complete IFs model structure).

$$GDP_{c,t} = \sum^{S}[CDA_{c,s,t=1} * TEFF_{c,s} * CAPUT_{c,s} * KS_{c,s}{}^{AlphaS_{c,s}} * LABS_{c,s}{}^{(1-AlphaS_{c,s})}]$$

Where TEFF, KS, LABS and CAPUT are sector specific values of total factor productivity, capital, labor and capacity utilization. CDA is a scaling factor computed in the base year to make model computations consistent with historical data. Subscript c is country, s is economic sector, t is time (Moyer, Mapes, et al., 2022).

Changing patterns of intrastate conflict drive productivity.[3] Within the IFs economic model, productivity is calculated in the economic production function and includes factors representing human development (education, health), physical capital (ICT, roads, electricity, energy prices, water/sanitation access), knowledge systems (STEM education, R&D spending, technology transfers through trade), and social capital (security, government capacity, governance quality, and political inclusion). Conflict is included in the social capital function of the Solow residual within the production function (B. B. Hughes et al., 2014; B. B. Hughes & Narayan, 2021; Joshi et al., 2015).

IFs forecasts the Gini coefficient for income inequality to capture trends in long-term patterns of the distribution of within-country resources. The approach computes the area under the equality curve (Gastwirth, 1972) where the *x* axis measures the portion of population and *y* the portion of income. It uses two categories of labor broken down by skill and initialized using GTAP data (Global Trade Analysis Project, 2018). The household earned income levels are calculated in the SAM and are driven by the labor share of value added across the six sectors represented in the production function. The formulation modifies earned income to calculate disposable income by augmenting or decrementing the former by government transfers for welfare and pensions, taxation income (consumption tax as well as pension tax), remittances, and returns on household investment.

$$GINIDOM_{c,t} = F(HHINCDIS_{c,t,ls}, HHPOP_{c,t,ls})$$

Where GINIDOM is the domestic gini coefficient for income inequality, HHINCDIS is household disposable income and HHPOP is the household size. Subscript c is country, t is time, and ls is labor by skill level.

The poverty module (B. B. Hughes et al., 2009; Moyer, Mapes, et al., 2022) uses inputs from the economic growth module and inequality modules. IFs forecasts poverty by first taking disposable income, described above, and allocating it to either consumption or savings driven by three factors. First, the model adjusts the consumption/savings ratio based on long-term changing patterns of country development. As GDP per capita of countries rise they slowly increase their share of savings relative to consumption. Next, the model adjusts consumption and savings shares in response to changing demographic age structure because both young and old consume a larger share of disposable income than does the working-age population. Finally, the model adjusts patterns of consumption/savings based on signals sent from sectoral prices and interest rates. Both signals are driven by equilibrating mechanisms connected to underlying inventory stocks.

The demographic module in IFs is a standard cohort component model using data from the United Nations Population Division (UNPD) (2019). Fertility is driven by levels of infant mortality, contraception use, GDP per capita, and average levels of education (B. B. Hughes, 2019). Forecast include 21 mortality categories by age and sex that are driven by both multiple and cause specific distal and proximate drivers (B. Hughes et al., 2011; B. B. Hughes et al., 2011; Sellers, 2020). Migration assumptions are exogenously imposed from the UNPD medium variant projections.

Finally, the IFs model uses a structural approach to estimate poverty rates at different per capita household consumption levels (represented in inflation and purchasing power adjusted currency) that draw on a log-normal distribution of household income,

[3] In IFs, conflict also drives other outcomes such as severe acute malnutrition (Moyer et al., 2020) but these were not included in this analysis.

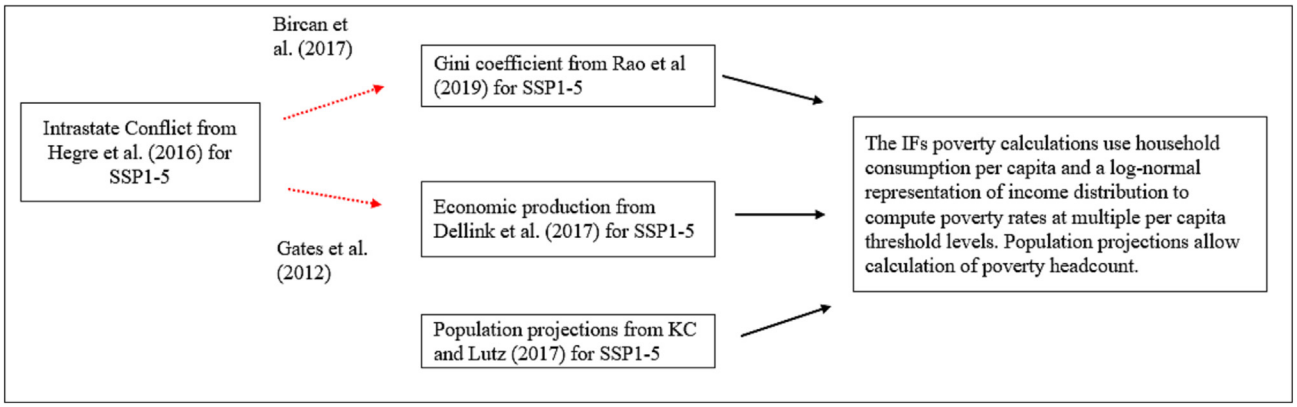

Fig. 2. SSP modeling approach used in this paper. Red-dashed arrows represent parameters that are turned off and on to simulate the effect of intrastate conflict on economic production and inequality. (For interpretation of the references to colour in this Fig. legend, the reader is referred to the web version of this article.)

(Bourguignon, 2004; Shorrocks & Wan, 2008). Base poverty rate values are initialized using data from PovcalNet (World Bank, 2021), which are originally survey based. Changes in the Gini coefficient for household income affect the horizontal shape of the commonly log-normal distribution of household income (B. B. Hughes et al., 2009 see Chapter 4). Levels of household income and consumption are changed by dynamics of the economic module and are described above.

3.2. The shared socioeconomic pathways (SSPs) and uncertainty

The SSPs frame uncertainty across future dimensions of socioeconomic development characterized by alternative patterns of challenges to both adaptation and mitigation in the face of future climate change (O'Neill et al., 2017). Fig. 2 shows how the SSPs are used in this paper. These include long-term projections of the country-year probability of intrastate conflict (Hegre et al., 2016), long-term projections of economic growth and development (Dellink et al., 2017), future patterns of country-level inequality (Rao et al., 2019), and demographic forecasts (Kc & Lutz, 2017). These latter three forecast series do not explicitly include the effects of intrastate conflict (SSP1-5 *No Conflict* scenarios listed in Table 1).

To model the effect of conflict on poverty via the SSPs, the work of Hegre et al. (2016) was used to adjust future economic growth and inequality in the SSP1-5 *No Conflict* projections following logic established in Bircan et al. (2017) and Gates et al. (2012), described below.

The *IFs No Conflict* scenario projects global population growth and GDP per capita similarly to SSP3, a scenario characterized by high challenges to adaptation and mitigation. It takes a more "middle-of-the-road" course (SSP2) in its projection of the Gini coefficient for income inequality.

3.3. Calibrating key relationships

The relationships in Fig. 2 that were calibrated for this analysis include (highlighted in red dashed arrows): a) the impact of the probability of intrastate conflict on GDP per capita; and b) the effect of intrastate conflict on the Gini coefficient for income inequality. In IFs, the relationship between conflict and productivity and on to GDP is described earlier in this paper. That relationship is similar in magnitude to those described in literature, with Collier (1999) showing that civil war reduces GDP growth by two percentage points and Gates et al. (2012) identifying a more dynamic relationship between conflicts of different length and GDP per capita (see Fig. 3).

The IFs model calibration was taken and used to exogenously changed the SSP economic production scenarios (Fig. 2). To do this a simple elasticity was estimated and a decay function created, shown in the equation below.

$$
\begin{aligned}
&SSPConflict(GDPPCPPP)_{x,t,c} \\
&= \left(SSPNoConflict(GDPPCPPP)_{x,t,c} * SSP(CONFLICT)_{x,t,c} * -0.4\right) \\
&\quad + SSPNoConflict(GDPPCPPP)_{x,t,c} \\
&\quad + (\left(SSPConflict(GDPPCPPP)_{x,t-1,c} - SSPNoConflict(GDPPCPPP)_{x,t-1,c}\right) * 0.9)
\end{aligned}
$$

Where x is the SSP number (1–5), t is time, c is country, −0.4 is the parameter linking conflict and GDP per capita and 0.9 decays the relationship across time. SSP … (CONFLICT) indicates the work of Hegre et al. (2016) and SSP … (GDPPCPPP) indicates the work of Dellink et al. (2017).

Fig. 3 shows the ratio of GDP per capita for the Gates et al. (2012) work, IFs and the SSPs for both long and short wars.[4]

The second relationship that was calibrated was between intrastate conflict and inequality using work from Bircan et al. (2017) find that conflict increases the Gini coefficient for income inequality by 1.9 points on a 100 point scale during war with effects growing after conflicts end to 2.1 points compared with countries that did not have conflict (2017, p. 126). The effects of increased income inequality dissipate 10 to 15 years after a conflict has ended. The insights of Bircan et al. (2017) were used to identify appropriate income distribution patterns to be built into the alternative conflict scenarios. To calculate alternative inequality trajectories, the country-year estimates of the probability of state failure are multiplied by 0.02, increasing the country-level Gini coefficient proportionally to the risk of conflict. To capture the temporal lag,

[4] To calibrate the conflict-growth relationship in IFs four scenarios were created:a) Total War: This scenario represents civil conflict in each country-year from 2022 to 2070.b) 13 Year Conflict: This scenario models a conflict starting in 2024 and extending through 2036 for all countries in the world.c) 5 Year Conflict: This scenario models a conflict starting in 2028 and extending through 2036 for all countries in the world.d) No Conflict: This scenario models a world without conflict starting in 2022.e) The average effect of conflict on GDP growth in IFs is −1.02 percentage points comparing the Total War scenario with the No Conflict scenario, −2.4 percentage points when comparing the 13 Year War scenario with the No Conflict scenario, and −3.06 percentage points when comparing the 5 Year War scenario with the No Conflict scenario. These variations in the effect of conflict on GDP growth do not neatly align with Collier's findings, but this largely speaks to the character of GDP growth rates as an outcome indicator. GDP growth rates are the year-to-year change in GDP. If a conflict reduces GDP growth by two percentage points in one year, the subsequent year's growth rate will be contingent on the first year's growth rate. This makes it difficult to calibrate a model that projects long-term growth rates to conflicts of various lengths.

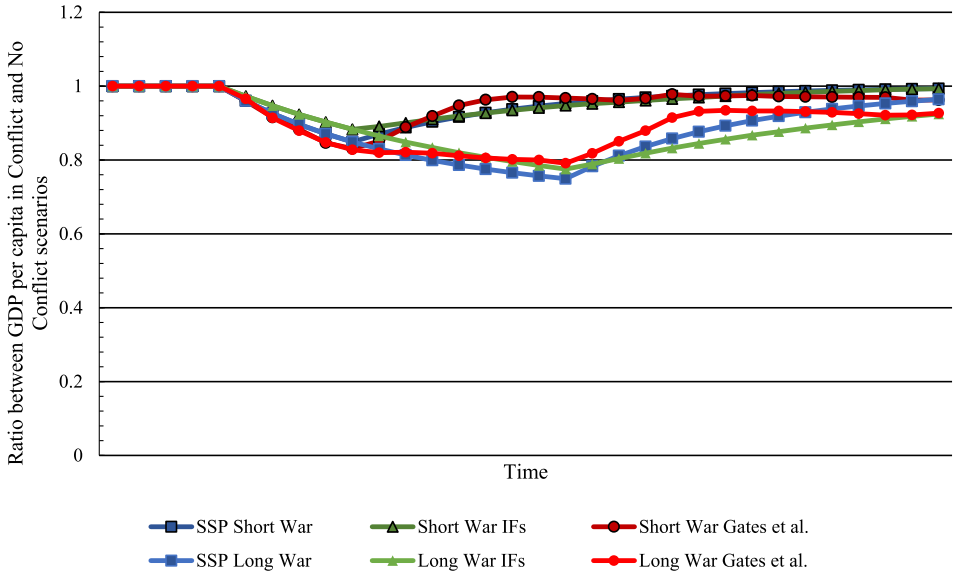

Fig. 3. Comparing model behavior between Gates et al. (2012), International Futures and SSPs for short and long wars for GDP per capita. Both short and long-wars are simulated starting in $t + 5$. Short wars are simulated to endure for $t = 5$ and long wars for $t = 13$.

the previous year's increase in inequality is added to the current year but decayed by 10 % over time. The equation below was used to calibrate this relationship exogenously for IFs as well as the SSPs.

$$SSPConflict(GINI)_{x,t,c} = \left(SSPNoConflict(GINI)_{x,t,c} * SSP(CONFLICT)_{x,t,c} * 0.02\right) + SSPNoConflict(GINI)_{x,t,c} + (\left(SSPConflict(GINI)_{x,t-1,c} - SSPNoConflict(GINI)_{x,t-1,c}\right) * 0.9)$$

Where x is the SSP number (1–5), t is time, c is country, −0.4 is the parameter linking conflict and GDP per capita and 0.9 decays the relationship across time. SSP…(GINI) indicates the work of Rao et al. (2019) *and SSP…(CONFLICT) indicates the work of* Hegre et al. (2016).

3.4. Baseline model behavior

This section explores the baseline behavior of the variables that drive the poverty results. Each scenario in this section excludes conflict effects except for the final graph which introduces the conflict scenarios themselves. This sets the stage for the results section which first introduces the effect of civil conflict on economy production and poverty. The results from IFs presented here are from the fully interconnected modeling framework and the SSPs are operationalized within IFs using the relative growth rates from the base year.[5] The most optimistic SSP scenarios for the indicators evaluated in this manuscript are those with few challenges to adaptation, notably SSP1 and SSP5. The most pessimistic SSP scenarios are those with greater challenges to adaptation, namely SSP3 and SSP4. SSP2—the "middle of the road" scenario—often splits the difference between these more and less optimistic scenario groups.

Fig. 4 shows the behavior of the economic projections used in this analysis. High GDP per capita growth is captured in SSP5 which pushes global economic production and consumption by 2100 to nearly $100,000 per person, an increase from over $15,000 per person at the beginning of the time horizon.[6] Alternatively, SSP3 shows average levels of GDP per capita increasing to just over $26,000 per person by the end of the century. The IFs *No Conflict* scenario also projects a relatively low-growth future reaching just over $33,000 by the end of the century. This is driven by a variety of factors, including expectations about long-term low growth prospects in high income countries (Burgess et al., 2022), persistent structural development challenges in the Global South related to poor governance and rapid population growth. COVID-19 also contributes significantly to the lower long-term growth future represented in IFs (Moyer, Mapes, et al., 2022) while the global pandemic is not represented in the SSPs.

While IFs is more pessimistic about long-term growth in GDP per capita than most SSP scenarios, its forecasts a "middle of the road" development scenario for global average income inequality (Fig. 5). The Rao et al. (2019) model results show a significant increase in worlds with greater challenges to adaptation, with SSP3 and SSP4 showing growth in average global income inequality, showing a 13% increase in average inequality across time. More optimistic scenarios—SSP1 and SSP5—show an improvement of 26% through the of the time horizon. The *IFs No Conflict* scenario shows a slight reduction from the starting point through 2070 (8%), slightly more optimistic than SSP2 (4%).

Global population is a key driver of poverty headcounts (Fig. 6), and the *IFs No Conflict* scenario is more pessimistic than most SSPs, showing population growth to over 10.4 billion by 2070, only exceeded by SSP3 growing to over 11.1 billion by the end of the century. Next, SSP2 and SSP4 have similar global population trajectories, growing to over 9.5 billion by the end of the time horizon. More optimistic and sustainable development futures—SSP1 and SSP5—show a peak and decline in global population through

[5] The original SSP levels are used in the Appendix for further uncertainty analysis. The base year used in this analysis is 2017. The SSP model results used here differ from published SSPs in various ways. The SSPs used in IFs are "chained" to initial values in the IFs model with a base year of 2017. The original SSP series were introduced prior to 2017 requiring chaining. To further evaluate the sensitivity of the results to using the absolute values of the SSPs, the Appendix highlights how using absolute values of the SSPs adjusts the overall results.

[6] All GDP figures are reported in 2011 real US dollars. When measuring overall GDP market exchange rates are used. When measuring GDP per capita as well as poverty figures purchasing power parity is used also reported in 2011 US dollars.

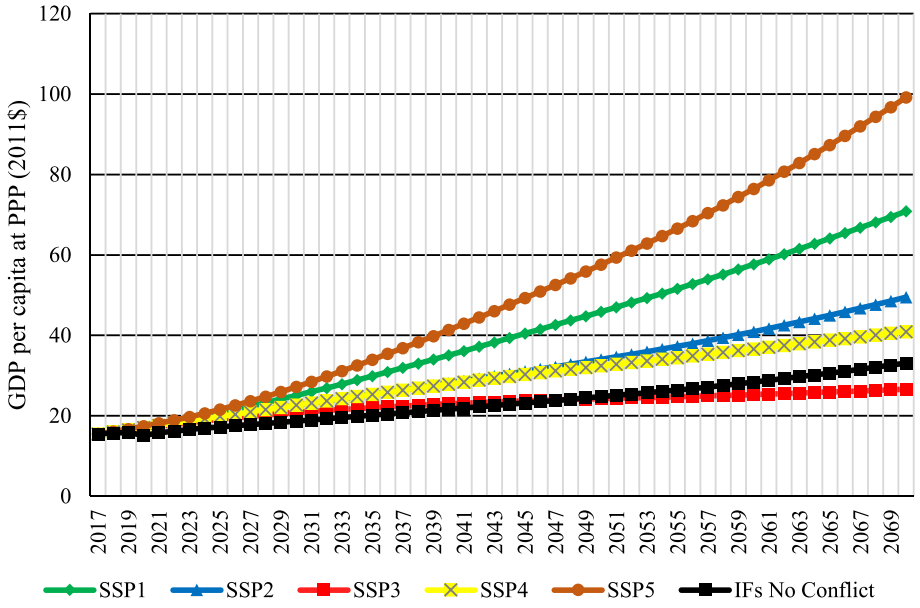

Fig. 4. Global GDP per capita at PPP (2011$) for the IFs No Conflict scenario and SSPs from Dellink et al. (2017).

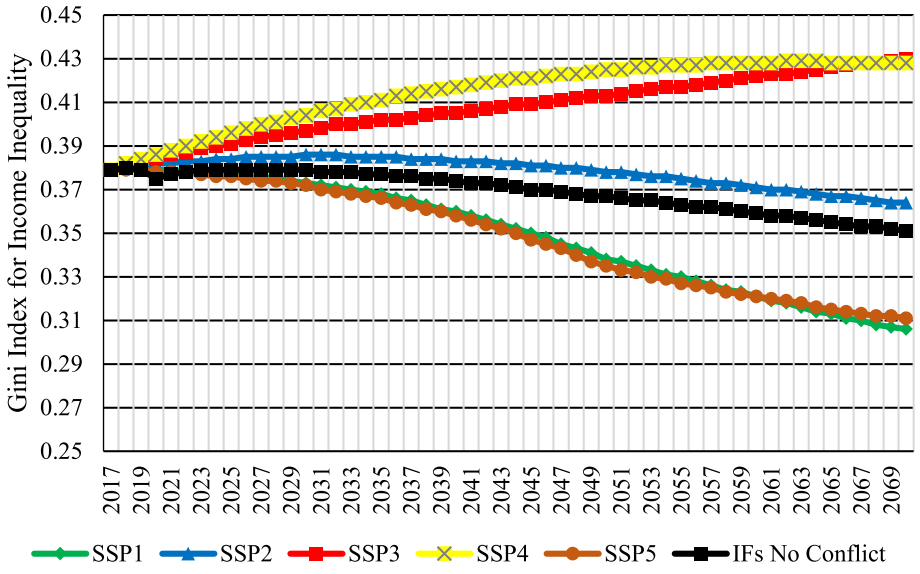

Fig. 5. Gini index for income inequality for the IFs No Conflict scenario and SSPs using Rao et al. (2019).

2070. While the IFs projection is higher than four of the five SSPs, it is similar to the UNPD medium variant projection.

The cumulative outcome of these alternative projections on the number of people living on less than $1.90 per day is shown in Fig. 7. The *IFs No Conflict* scenario estimates poverty to be higher in earlier years driven primarily by the inclusion of dynamics associated with COVID-19 and its impact on economic systems and their distribution (Moyer, Mapes, et al., 2022). The IFs scenario then forecasts a decline in extreme poverty from 727.8 million people living on less than $1.90 per day in 2022 to 590.2 million by 2030, 339.5 million by 2050, and 114.0 million by 2070.

Poverty as a percent of the total population is also expected to decline in the *IFs No Conflict* scenario reducing from 9.2 % in 2022 to 6.9 % by 2030, far higher than the generally accepted 3 % threshold for SDG1 target achievement. From 2022 to 2030 the share of the population living in extreme poverty is forecast to decline from 33.8 % to 25.9 % in Africa, 4.3 % to 3.8 % in the Americas, 4.4 % to 2.1 % in Asia, 0.4 % to 0.2 % in Europe, and 6.2 % to 3.0 % in Oceania.

Over that same period the share of the population living in extreme poverty in Low Income countries declines from 42.6 % to 32.1 %, Low-Middle Income from 11.8 % to 7.6 %, Upper-Middle Income countries from 2.0 % to 1.6 %, and High-Income countries from 0.6 % to 0.4 %.

The SSP scenarios—operationalized within the IFs system—show a broad range of future outcomes for poverty. In the most optimistic scenario—those shaped by few challenges to adaptation (SSP1 and SSP5)—the future of poverty is projected to decline rapidly, falling below 100 million people in the mid-2030's. The middle-of-the-road scenario (SSP2) also declines rapidly, falling below 100 million people by mid-century. Alternatively, the two

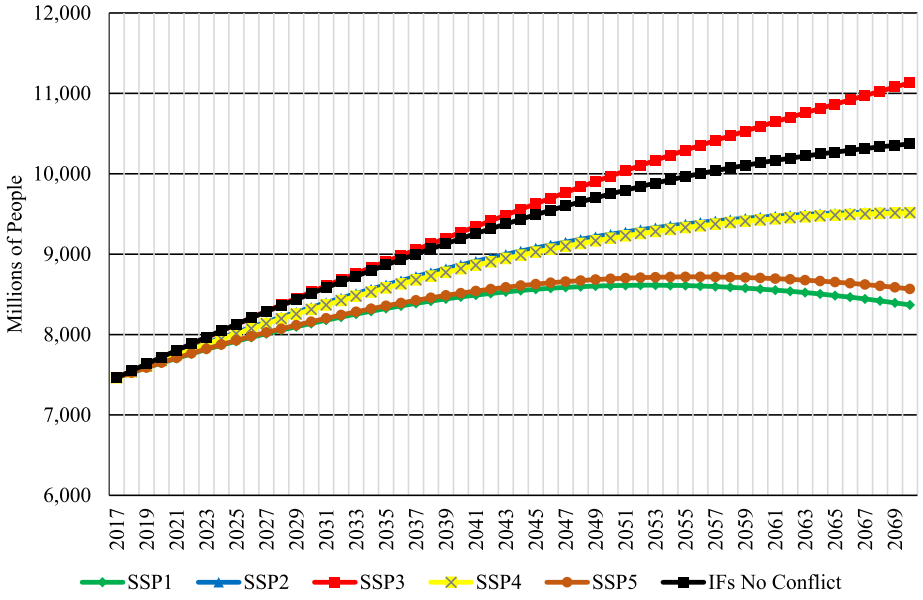

Fig. 6. Global population for the IFs No Conflict Scenario and SSPs using KC et al. (2017).

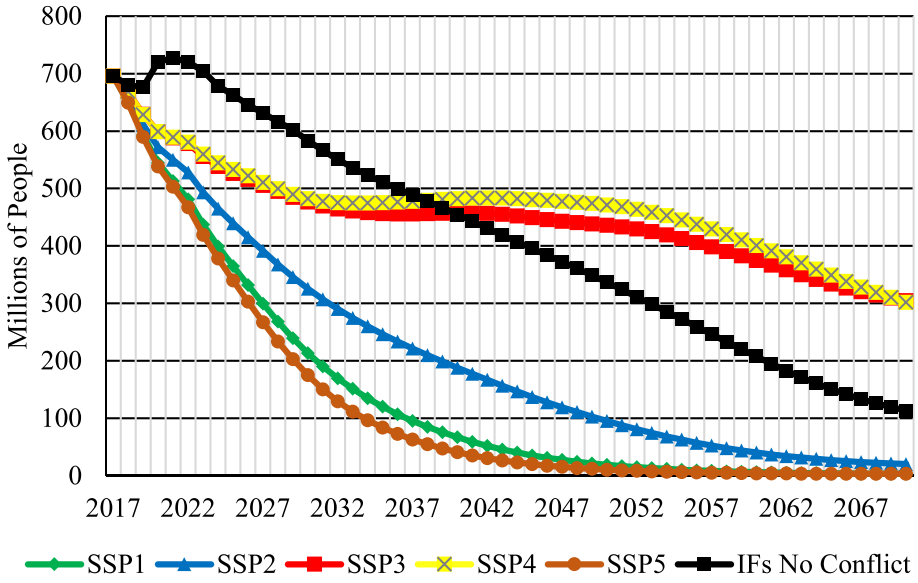

Fig. 7. Global population living on less than $1.90 per day (measured in PPP at 2011$) for the IFs *No Conflict* scenario and SSPs driving the IFs poverty module.

scenarios characterized by high challenges to adaptation show more persistently high poverty levels, with over 450 million people living on less than $1.90 per day by mid-century and over 300 million people by 2070. As mentioned above, these scenarios are more optimistic than the IFs scenario in the first two decades of the forecast horizon driven by the effect of the global pandemic.

In addition to the scenarios used to drive future levels of poverty, this analysis also relies on projections of the average country-year probability of intrastate conflict, shown in Fig. 8. The *IFs Conflict* scenario forecasts a decline in the average probability of state failure from a peak of 0.148 in 2022, falling to 0.125 in 2030, 0.114 by 2040, 0.101 by 2050, 0.093 by 2060, and 0.084 by 2070. The IFs initial value is higher than the SSPs driven by the inclusion of COVID-19 pandemic dynamics, which increases the probability of intrastate conflict (Moyer & Kaplan, 2020).

In terms of regional distribution, the *IFs Current Path* scenario shows the highest probability of average civil war onset in Asia, averaging 0.247 in 2022 and falling to 0.226 in 2030, 0.190 by 2050, and 0.177 by 2070. Next, the average probability of civil war onset in Africa is 0.185 in 2022 falling to 0.155 by 2030, 0.115 by 2050, and 0.072 by 2070. The average probability of civil war onset in the Americas begins at 0.065 in 2022 falling to 0.054 by 2030, 0.048 by 2050, and 0.047 by 2070. In Europe, the average probability falls from 0.050 in 2022, 0.024 by 2030, 0.023 by 2050, and 0.025 by 2070.

The five SSP scenarios produce a broad range of possible outcomes, starting with an average probability of civil war onset of 0.107 in 2017. In scenarios with greater challenges to adaptation (SSP3 and SSP4), the probability of onset grows significantly, peaking in 2070 at 0.157 in SSP4 and 0.181 in 2070. Alternatively, scenarios with lower challenges to adaptation (SSP1 and SSP5) show reductions in the average probability through 2070 declining to 0.072 in SSP1 and 0.066 in SSP5. The IFs *Current Path*, while starting at higher values than the middle-of-the-road scenario (SSP2) even-

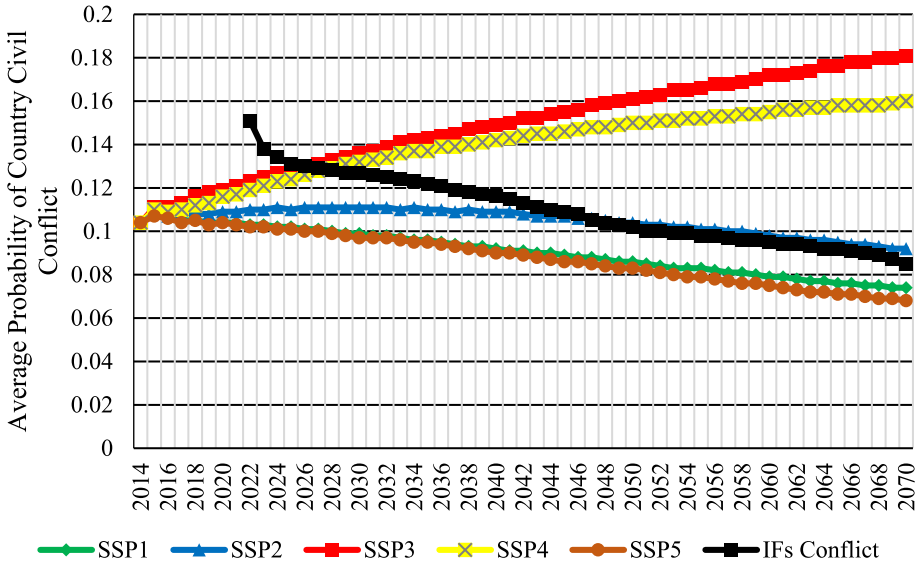

Fig. 8. Average global probability of intrastate conflict for the IFs No Conflict scenario and SSPs using Hegre et al. (2016).

tually finds itself converging closer to mid-century. SSP2 ends the time horizon with an average probability of civil war onset of 0.09.

3.5. How many people will be extremely poor because of intrastate conflict over the next decades?

Ending civil war globally has a significant positive effect on overall economic activity, summarized in Tables 2 and 3. The IFs model shows that conflict between 2022 and 2030 will reduce economic activity by a cumulative -$28.1 (range: $23.5 to $30.4) trillion globally. The cumulative economic cost of conflict grows to $292.4 (range: $242.1 to $313.4) trillion by 2050 and $749.2 trillion (range: $714.2 to $877.6) by 2070. This represents a reduction in global economic activities of 4.8 % by 2030, 9.5 % by 2050 and 8.6 % by 2070 compared to a world without conflict.[7] Turning to the SSPs, the economic cost of conflict ranges from −2.8 % to −4.6 % in 2030, −4.6 % to −9.8 % by 2050, and −4.9 % to −12.7 % by 2070. SSP3, characterized by high challenges to both adaptation and mitigation, show the greatest reduction in the share of economic activity driven by future intrastate conflict. Notably, the IFs model results are slightly higher than the mean result across SSP scenarios caused primarily by the dynamically connected model structure, where increases in conflict contributes to a vicious cycle of development that reduce spending education, health and infrastructure, and investments in the economy.

The largest conflict-attributable reductions in economic activity occurs in Asia (a finding that corresponds with the historical analysis of de Groot et al. (2022)), where conflict between 2022 and 2030 reduces economic activity by 8.6 %, 14.7 % by 2050, and 12.2 % by 2070 (Table 4). In Africa conflict will reduce economic activity by 7.8 % by 2030, 18.1 % by 2050 and 12.5 % by 2070. The income groupings that see the largest reduction in their share of economic activity driven by intrastate conflict are Low-Middle Income (16.3 % in 2030, 25.4 % in 2050, 14.9 % in 2070) and Low Income (11.0 % in 2030, 28.4 % in 2050 and 19.6 % in 2070). Finally, there are large economic costs in Upper-Middle Income countries where civil war reduces economic activity by 10.0 % by 2030, 16.2 % by 2050, and 14.1 % by 2070.

By 2030, the scenario with the greatest increase in inequality driven by conflict is the *IFs Current Path* scenario (Tables 5 and 6). This is primarily driven by higher initial conflict values driven by the inclusion of data associated with COVID-19. The IFs scenario projects the conflict attributable portion of inequality to grow through 2050, increasing the Gini coefficient for income inequality by 0.026 on a zero-to-one scale and then declining slightly through 2070. The SSP with the greatest increase in income inequality driven by conflict is SSP3, which shows increases in inequality that grow from 0.020 in 2030 to 0.029 by 2050 and 0.035 by 2070 compared to a world without conflict. This is followed closely by SSP4, a world of both high challenges to adaptation and mitigation. The remaining SSPs show lower overall increases in inequality driven by conflict, though the Gini coefficient for income increases in each case. Regionally, when exploring the IFs model results, the greatest increases inequality driven by conflict occur in Asia followed closely by Africa.

Table 7 and Fig. 9 show the number of people by region and scenario that are projected to live in extreme poverty due to persistent intrastate conflict from 2022 forward. By 2030, 148.2 million people are projected to live in conflict because of civil conflict from 2022 to 2030. This conflict-attributable population grows to 197.4 million by 2040 and then declines to 164.9 by 2050, 117.7 million by 2060, then 54.1 million by 2070. Across the SSP scenarios, outcomes range from a low estimate of 50.7 million people living in poverty because of conflict in 2030 in a scenario with very high economic growth (SSP5) to a high of 186.0 million in a scenario characterized by significant challenges to both adaptation and mitigation (SSP3). Across world regions, the largest number of people living in extreme poverty because of conflict is projected to be in Africa and Asia. In Africa 60.3 million people are projected to live in poverty due to conflict by 2030 and over 112.1 million people by mid-century. In Asia the conflict attributable population in extreme poverty is 83.8 million by 2030, declining to 49.0 million by 2050.

In a middle-of-the-road scenario (SSP2) the conflict-attributable number of people living on less than $3.20 per day grows to 261.5 million by 2030, 217.6 million by 2050, and declines to 100.9 million by 2070. In scenarios with larger challenges to adaptation in the face of climate change, the conflict attributable numbers are

[7] These results are generally in line with other studies such as de Groot et al. (2022) who estimated that the total magnitude of historical conflict on reduced economic activities between 1970 and 2012 was 12% of total GDP. Their estimate is larger than the estimate provided here (a 8.59% reduction over 48 years as compared with a 12% reduction over 44 years) but the former analysis included all conflict (territorial, civil and international) while this analysis focuses only on civil conflict.

Table 2
The effect of conflict on global economic growth. Measured in trillions of 2011 USD at market exchange rates, all tables measure the cumulative differences post 2022 between SSP scenario and a *No Conflict* scenario.

	IFs	SSP1	SSP2	SSP3	SSP4	SSP5
2030	-$28.1	-$23.5	-$25.5	-$30.1	-$30.4	-$23.4
2050	-$292.4	-$242.1	-$254.3	-$294.7	-$313.4	-$265.2
2070	-$749.2	-$714.2	-$715.5	-$809.7	-$877.6	-$849.0

Table 3
The effect of conflict on global economic growth. Measured as differences post 2022 in economic activity in the identified year between the No Conflict and SPP scenario.

	IFs	SSP1	SSP2	SSP3	SSP4	SSP5
2030	−4.8 %	−3.1 %	−3.6 %	−4.6 %	−4.4 %	−2.8 %
2050	−9.5 %	−5.0 %	−6.4 %	−9.8 %	−8.4 %	−4.6 %
2070	−8.6 %	−5.4 %	−6.6 %	−12.7 %	−9.7 %	−4.9 %

Table 4
The effect of conflict on economic growth for select country groupings. Measured as difference in economic activity in the identified year between the IFs No Conflict and Current Path scenarios.

	Africa	Americas	Asia	Europe	Oceania	High Income	Low Income	Low-Middle Income	Upper Middle Income
2030	−7.8 %	−1.1 %	−8.6 %	−1.7 %	0.1 %	−0.1 %	−11.0 %	−16.3 %	−10.0 %
2050	−18.1 %	−1.8 %	−14.7 %	−2.8 %	0.2 %	−0.0 %	−28.4 %	−25.4 %	−16.2 %
2070	−12.5 %	−1.7 %	−12.2 %	−2.9 %	0.2 %	−0.0 %	−19.6 %	−14.9 %	−14.1 %

Table 5
Effect of civil war on inequality by scenario, global in 2030, 2050, and 2070 assuming intrastate conflict is eliminated from 2022 to 2070.

	IFs	SSP1	SSP2	SSP3	SSP4	SSP5
2030	0.018	0.011	0.013	0.015	0.015	0.011
2050	0.025	0.015	0.019	0.029	0.028	0.015
2070	0.022	0.013	0.018	0.035	0.031	0.012

Table 6
Effect of civil war on inequality comparing the IFs No Conflict and IFs Current Path scenarios by region assuming intrastate conflict is eliminated from 2022 to 2070.

	Africa	Americas	Asia	Europe	Oceania
2030	0.015	0.006	0.024	0.007	0
2050	0.024	0.008	0.032	0.01	0
2070	0.02	0.008	0.029	0.009	0

Table 7
Conflict-attributable populations in extreme poverty (millions living on less than $1.90 per day) for the World and Regions, 2030, 2040, 2050, 2060, and 2070 assuming intrastate conflict is eliminated from 2022 to 2070.

World	**IFs**	**SSP1**	**SSP2**	**SSP3**	**SSP4**	**SSP5**	***Africa***	**IFs**	**SSP1**	**SSP2**	**SSP3**	**SSP4**	**SSP5**
2030	148.2	60.0	111.8	186.0	166.6	50.7	*2030*	60.3	30.3	45.1	62.2	59.5	25.3
2040	197.4	28.0	102.5	298.9	257.1	20.1	*2040*	115.1	16.8	44.4	100.4	99.7	10.0
2050	164.9	7.9	65.7	376.5	305.8	4.3	*2050*	112.1	5.6	28.2	127.1	133.9	2.5
2060	117.7	2.6	37.8	400.7	311.7	1.5	*2060*	80.5	1.7	11.9	130.3	148.5	0.7
2070	54.1	1.3	25.5	419.5	285.0	0.9	*2070*	30.3	0.7	4.9	116.7	138.7	0.2
Americas	**IFs**	**SSP1**	**SSP2**	**SSP3**	**SSP4**	**SSP5**	***Asia***	**IFs**	**SSP1**	**SSP2**	**SSP3**	**SSP4**	**SSP5**
2030	3.8	2.3	3.4	5.4	5.6	1.8	*2030*	83.8	27.3	63.2	118.1	101.1	23.5
2040	4.2	1.8	3.8	9.9	9.4	1.3	*2040*	77.9	9.3	54.1	188.1	147.4	8.7
2050	3.8	1.1	2.9	12.8	11.2	0.8	*2050*	49.0	1.2	34.5	236.0	160.0	1.0
2060	3.0	0.7	2.0	14.8	12.1	0.6	*2060*	34.0	0.2	23.7	254.7	150.3	0.2
2070	2.5	0.6	1.6	16.3	12.9	0.7	*2070*	21.2	0.1	18.9	285.6	132.4	0.0
Europe	**IFs**	**SSP1**	**SSP2**	**SSP3**	**SSP4**	**SSP5**	***Oceania***	**IFs**	**SSP1**	**SSP2**	**SSP3**	**SSP4**	**SSP5**
2030	0.3	0.1	0.2	0.3	0.3	0.1	*2030*	0.0	0.0	0.0	0.1	0.1	0.0
2040	0.2	0.1	0.2	0.5	0.5	0.1	*2040*	0.0	0.0	0.0	0.1	0.1	0.0
2050	0.2	0.0	0.1	0.5	0.5	0.0	*2050*	0.0	0.0	0.0	0.1	0.1	0.0
2060	0.1	0.0	0.1	0.7	0.7	0.0	*2060*	0.0	0.0	0.0	0.1	0.1	0.0
2070	0.1	0.0	0.0	0.9	0.9	0.0	*2070*	0.0	0.0	0.0	0.1	0.1	0.0

greater: 341.9 million by 2030 684.4 million by 2050 and 783.7 million by 2070 (SSP3). In scenarios with fewer challenges to climate adaptation, the number of conflict-attributable people living in poverty increases to 155.2 million by 2030, 25.0 million by 2050, and 2.6 million by 2070 (SSP5). See Appendix for more information.

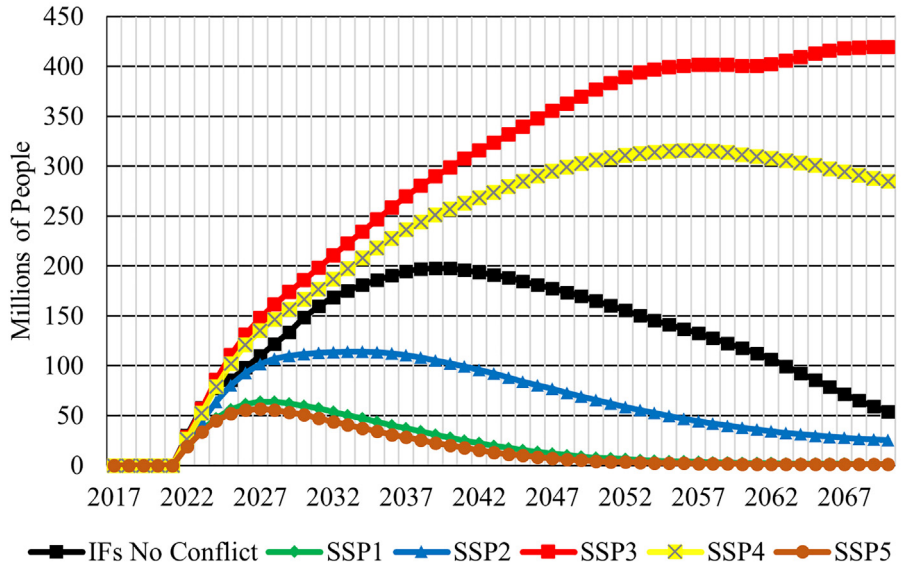

Fig. 9. Projected conflict attributable population living on less than $1.90 per day by scenario comparing the Conflict and No Conflict scenarios.

For those living on less than $5.50 per day the conflict-attributable portion in the IFs framework grows to 303.3 million by 2030, 593.0 million by 2050, and 396.4 million by 2070. In scenarios with greater challenges to adaptation in the face of climate change, the conflict-attributable portion grows to 339.2 million by 2030, 245.3 by 2050, and 980.6 million by 2070 (SSP3). In scenarios with lower challenges to climate adaptation, the conflict-attributable portion grows to 232.5 million by 2030, 101.4 million by 2050, and 13.0 million by 2070 (SSP5).

Eliminating conflict in 2022 would have profound effects on reducing global poverty, reducing inequality and increasing economic production. But this effect is not universal across poverty thresholds. For example, the effect of eliminating conflict in 2022 on the future distribution of extreme poverty (under $1.90 per day) eliminates 20.1 % of the in-poverty population by 2030 and 32.7 % of that population by 2050. For higher dollar-*per*-day thresholds the effect of eliminating conflict is more muted, with 16.7 % of the under-$3.20 population pulled from poverty by 2030, and 29.8 % by 2050. Of the population living on less than $5.50 per day, only 9.4 % are pulled from poverty by 2030 and 22.0 % by 2050 if conflict were eliminated in 2022.

Table 8 shows how a middle-of-the-road conflict scenario impacts poverty distribution by World Bank income groups in both absolute terms and as a ratio with a *No Conflict* scenario. The largest share of future poverty attributable to conflict is in Low-Middle income countries, which see 95.8 million people driven into poverty by conflict in 2030.

The country with the largest number of conflict attributable poor from 2022 to 2030 is India, with 61.3 million people in extreme poverty due to intrastate violence. The conflict attributable poor in India declines to 44.9 million by 2040, 12.0 million by 2050, 2.0 million by 2060, and 0.3 million by 2070 in the IFs model run. Nigeria sees 19.1 million people in poverty from 2022 to 2030 driven by intrastate conflict, a number that grows to 43.8 million by 2040, 61.4 million by 2050, 54.4 million by 2060 and 22.4 million by 2070. The Democratic Republic of Congo sees 15.7 million people in extreme poverty due to conflict by 2030 a number that grows to 34.6 million by 2040 then declines to 22.6 million by 2050, 8.8 million by 2060 and 1.8 million by 2070. Other countries with notable numbers of people living in extreme poverty due to future conflict by 2030 are Ethiopia (6.9 million), Philippines (5.5 million), Afghanistan (4.8 million), Pakistan (4.8

Table 8
World Bank Income Groupings for *IFs No Conflict* and *IFs Current Path* poverty projections (in millions of people) 2020–70 using IFs for $1.90 assuming intrastate conflict is eliminated from 2022 to 2070.

		2021	2030	2040	2050	2060	2070
High Income	*IFs No Conflict*	6.7	4.5	3	1.6	0.9	0.6
	IFs Current Path	6.7	4.5	3	1.6	0.9	0.6
	Difference	–	0	0	0	0	0
	Ratio	–	1	1	1	0	1
Low Income	*IFs No Conflict*	299.6	279.8	218.6	154.7	97.4	52.8
	IFs Current Path	299.6	325.1	299.1	219.6	142.0	76.4
	Difference	–	45.3	80.5	64.9	44.6	23.6
	Ratio	–	1.2	1.4	1.4	1.5	1.4
Low-Middle Income	*IFs No Conflict*	366.9	255.7	202.7	151.7	85.0	39.8
	IFs Current Path	366.9	351.5	313.4	246.8	154.2	67.6
	Difference	–	95.8	110.7	95.1	69.2	27.8
	Ratio	–	1.4	1.5	1.6	1.8	1.7
Upper-Middle Income	*IFs No Conflict*	62.16	50.2	38.4	31.5	26.2	20.9
	IFs Current Path	62.16	57.3	44.7	36.5	30.0	23.6
	Difference	–	7.1	6.4	5.0	3.8	2.7
	Ratio	–	1.1	1.2	1.2	1.1	1.1

million), Sudan (4.4 million), Somalia (3.7 million), and Uganda (3.3 million).

One notable finding from this analysis is that future patterns of intrastate conflict driving increases in extreme poverty are highly concentrated in a handful of countries. The ten countries with the largest number of people in extreme poverty due to future conflict represent 87.3 % of the global population in extreme poverty due to future conflict by 2030 and 87.5 % by 2040. This suggests that policy interventions could be targeted in a handful of countries and, if successful, could have a positive ameliorating effect on these dynamics moving ahead.

4. Discussion

This research contributes in various ways to our understanding of conflict-poverty dynamics, policy strategies related to sustainable development, and methodology. The work shows that the impact of future conflict on future levels of poverty is large—if conflict continues between 2022 and 2030, 148.2 (range: 50.7 to 186.0) million people will live in extreme poverty driven by conflict. Eliminating conflict would significantly improve our ability to achieve the SDGs and interventions in particularly vulnerable states may pay large dividends (the number of conflict-attributable people in poverty in the ten most affected countries is 129.4 million people in 2030 and 172.8 million people by 2040).

This paper also shows that eliminating intrastate conflict is not a panacea for achieving the SDGs. First, even in the *IFs No Conflict* scenario the world is projected to have 6.9 % of the population living on less than $1.90 per day, a far cry from the 3 % target value. Comparatively, the *IFs Conflict* scenario estimates that 8.6 % of the global population will live on less than $1.90 per day by 2030, an increase of 1.7 percentage points driven by intrastate conflict. While eliminating violent conflict could play a significant role in reducing poverty, additional policies are needed, including increasing governance quality and capacity (B. B. Hughes et al., 2014; Joshi et al., 2015), achieving gender equality (Meinzen-Dick et al., 2019), improving access to health and education (Ngoma & Mayimbo, 2017), increasing access to infrastructure (Rothman et al., 2014), and building sustainable food systems (Larsen & Lilleør, 2014).

Methodologically, this work highlights the value of using integrated assessment models to better understand dynamics in the field of sustainable development. Models that integrate across a broad range of integrated and dynamically connected systems can provide a framework for thinking strategically about how development patterns are unfolding around the world. While comparative statistical, econometric, and other more traditional quantitative techniques will remain essential, large structural/algorithmic models can fill gaps in particular areas where data gaps limit our ability to understand key relationships. Such tools have been used to make estimates for policy-relevant audiences in areas where data availability is limited, such as the conflict in Yemen (Hanna et al., 2021; Moyer, Bohl, et al., 2019; Moyer, Hanna, et al., 2019).

While integrated approaches to modeling future trends can be used to estimate dynamics and relationships that are obscured by historical gaps in data, they are also limited in various ways. First, the analysis conducted here assumes a constant relationship between intrastate conflict and economic growth and inequality. As the nature of civil conflict changes with shifting norms, technology and other factors, so will this relationship and evidence suggests that conflict models have important temporal dimensions that must be considered (Bowlsby et al., 2019). Next, the approaches used here are at the country-level while most intrastate conflict dynamics occur within countries and have spatial dimensions that country-level analysis obscure. Third, large models are not intended to make simple point predictions about what will or will not happen in the future and the ability to frame and communicate uncertainty remains a persistent challenge. For example, in the forecast of the probability of intrastate conflict evidence suggests that a variety of factors may play roles at different points in time and that single models may have limitations (Moyer, Mathews, et al., 2022). Finally, some SSP scenarios forecast economic growth and development patterns that are very optimistic (SSP5, SSP1) (Buhaug & Vestby, 2019) and produce unreasonably low projections of future levels of poverty considering the devastating and lasting effects of war.

The historical relationship between conflict and poverty is difficult to ascertain because of gaps in data (Gates et al., 2012, p. 1718). More recent data estimation projects like PovcalNet (World Bank, 2021) have made significant strides at filling these gaps using estimation techniques, though significant limitations remain because wartime poverty surveys largely do not exist. Gaps in poverty data are not the only limiting factor in helping better understand the relationship between conflict and poverty. Measurements of intrastate conflict are coarse-grained and do a poor job of capturing the magnitude of conflict across both space and time. While some projects have emerged to provide more granularity (Raleigh et al., 2010; Tollefsen et al., 2012), and other projects do capture conflict thresholds (Gleditsch et al., 2002), these measures remain quite coarse with an over-emphasis on conflict-driven mortality. The field would benefit from measures that help track conflict at a more granular level across space and time and that could be used to provide more detailed assessments of the impact of conflict on development.

While more data collection that improves measurement quality and granularity, there remain systematic issues with how we measure poverty and human well-being more generally. Poverty measures have been criticized for a variety of reasons. The PPP approach to adjusting GDP at market exchange rates has been called into question (Allen, 2020; Moatsos & Lazopoulos, 2021; Pogge & Reddy, 2005) with variations in measurement significantly changing estimates of historical improvements in poverty (Moatsos & Lazopoulos, 2021). More broadly, the use of GDP as a driver of development has been a concern for various reasons, including its inability to accurately capture the cost of many environmental externalities. Even more broadly, the approach to using consumption-based measures of poverty to capture trends in human development is called into question because human well-being is a multidimensional concept that requires a much broader set of inputs that involve health, education, inclusion, recreation, and human relationships (Schmelzer, 2022).

The models used in this analysis do not factor in how changing patterns of poverty will impact future conflict, an omitted dynamic that is important. While poverty may be a driver of conflict, this has not been shown broadly and most studies focus on levels of development (Baillie et al., 2021; Fearon & Laitin, 2003; Goldstone et al., 2010), horizontal inequalities (Gurr, 2000), and governance institutions (Goldstone et al., 2010). Not including these dynamics may reduce some "vicious cycle" dynamics that cause conflict to increase poverty and then poverty to further increase the probability of conflict in the future.

There is no explicit role for climate change in this analysis, another limitation. The SSPs present alternative development trajectories that frame future challenges to adaptation and mitigation of climate change excluding direct environmental effects. The role of climate change in this analysis is limited to its contextual role in shaping the questions the SSPs are asking as well as their potential future role in shaping a broad research agenda related to how humans contribute to and live within a changing global environmental system. Climate dynamics in the IFs model were turned off for this research.

Increasing consumption to improve human development driven by a fossil-fuel based energy system will increase greenhouse gas emissions and lead to a worsening climate future for every-one (Hickel, 2019; Hickel & Kallis, 2020). To overcome this development practitioners must find multidimensional ways of transforming how humans produce and consume so that those who find themselves with acute shortages of material resources can be supported while those with excess material resources can find ways of living within environmental constraints. Our ability to navigate these broader sets of challenges will define the next century and have direct effects on the lives of billions.

This paper has attempted to push forward an integrated framework for analyzing the relationship between intrastate conflict and poverty. These integrated approaches to analyzing development challenges can be used more broadly to evaluate potential policy trade-offs and synergies helping to further our understanding of grand challenges and effects of human responses. Using integrated and systems frameworks to further our understanding of key relationships and define broad policy pathways will increasingly be needed as we wrestle with global challenges that are increasingly characterized by complexity and dynamics that cross academic disciplines.

5. Conclusion

The goal of this research is to improve our understanding of the relationship between intrastate conflict and poverty in the future. Conflict is shown to directly increase the proportion of the global population in poverty, with a small set of countries at higher risk for conflict-attributable poverty. Policymakers should take these findings and build strategies that emphasize the interlinkages across sustainable development goals and targets, finding ways to prioritize both poverty alleviation and conflict mitigation. The SDGs are an ambitious set of targets for human development with the stated objective of "leaving no one behind". To achieve this, the elimination of intrastate conflict must be a focal point of global development efforts.

CRediT authorship contribution statement

Jonathan D. Moyer: Conceptualization, Methodology, Validation, Formal analysis, Visualization, Data curation , Writing - original draft , Writing - review & editing.

Data availability

Replication instructions can be found here: https://ifs02.du.edu/Replication%20Files/Replication%20Conflict%20and%20Poverty%20with%20IFs%207.85.zip

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix

Appendix:. Further sensitivity analysis

To further assess the uncertainty inherent in this long-term forecast analysis more scenarios were created. These additional scenarios vary assumptions about the relationship between conflict and economic growth as well as conflict and inequality. This Appendix a) introduces those scenarios; b) demonstrates how these change core behavior related to economic growth and inequality, and c) show how these impact findings.

Introducing the scenarios

The scenarios created for this sensitivity analysis varied the parameters connecting changing patterns of intrastate conflict to both economic growth and inequality in the IFs model as well as the SSP scenarios. To do this alternative conflict and no-conflict scenarios were created that both double and cut in-half the relationship between conflict and growth as well as inequality. In total, 34 additional scenarios were created (in addition to the 12 pre-

Table 9
Full list of scenarios used in paper and sensitivity analysis.

Scenario Name	Name in Replication Material	Conflict to GDPPC	Conflict to Inequality	Using SSP Levels or Rates?	Conflict On?
IFs Conflict	CPConflict.sce	−0.5	0.02	N/A	Yes
IFs No Conflict	ICE.sce	−0.5	N/A	N/A	No
IFs Conflict High	CPHiConflict.sce	−0.75	0.04	N/A	Yes
IFs Conflict Low	CPLoConflict.sce	−0.25	0.01	N/A	Yes
IFs No Conflict High	ICEHi.sce	−0.75	N/A	N/A	No
IFs No Conflict Low	ICELo.sce	−0.5	N/A	N/A	No
SSP1-5 No Conflict	S1.sce, S2.sce, S3.sce, S4.sce, S5.sce	N/A	N/A	Relative	No
SSP1-5 Conflict	S1Conflict.sce, S2Conflict.sce, S3Conflict.sce, S4Conflict.sce, S5Conflict.sce	−0.04	0.02	Relative	Yes
SSP1-5 Conflict High	S1HiConflict.sce, S2HiConflict.sce, S3HiConflict.sce, S4HiConflict.sce, S5HiConflict.sce	−0.08	0.04	Relative	Yes
SSP1-5 Conflict Low	S1LoConflict.sce, S2LoConflict.sce, S3LoConflict.sce, S4LoConflict.sce, S5LoConflict.sce	−0.02	0.01	Relative	Yes
SSP1-5 No Conflict Absolute	S1ABS.sce, S2ABS.sce, S3ABS.sce, S4ABS.sce, S5ABS.sce	N/A	N/A	Absolute	No
SSP1-5 Conflict Absolute	S1ABSConflict.sce, S2ABSConflict.sce, S3ABSConflict.sce, S4ABSConflict.sce, S5ABSConflict.sce	−0.4	0.02	Absolute	Yes
SSP1-5 Conflict Absolute High	S1ABSHiConflict.sce, S2ABSHiConfllict.sce, S3ABSHiConflict.sce, S4ABSHiConflict.sce, S5ABSHiConflict.sce	−0.8	0.04	Absolute	Yes
SSP1-5 Conflict Absolute Low	S1ABSLoConflict.sce, S2ABSLoConflict.sce, S3ABSLoConflict.sce, S4ABSLoConflict.sce, S5ABSLoConflict.sce	−0.02	0.01	Absolute	Yes

sented in the main findings of the paper and the four used for model calibration, described in a footnote).

In the IFs system the baseline model behavior includes conflict and no-conflict scenarios that each have independent effects on economic growth, dynamically calculated through the economic module described in the manuscript. This is distinct from the treatment of the SSP scenarios which do not include a direct relationship with a no-conflict scenario (they are taken directly from Dellink et al. (2017) which explicitly state that they do not include conflict dynamics). Because of this, there are IFs conflict and no-conflict scenarios with alternative sensitivity, while the SSPs only include conflict related scenarios in the sensitivity analysis.

Baseline model behavior

The model results shown below include graphs and tables that describe core behavior for variables measuring average economic output, its distribution, and the effects that these variables have on the future distribution of poverty. The results show a broader

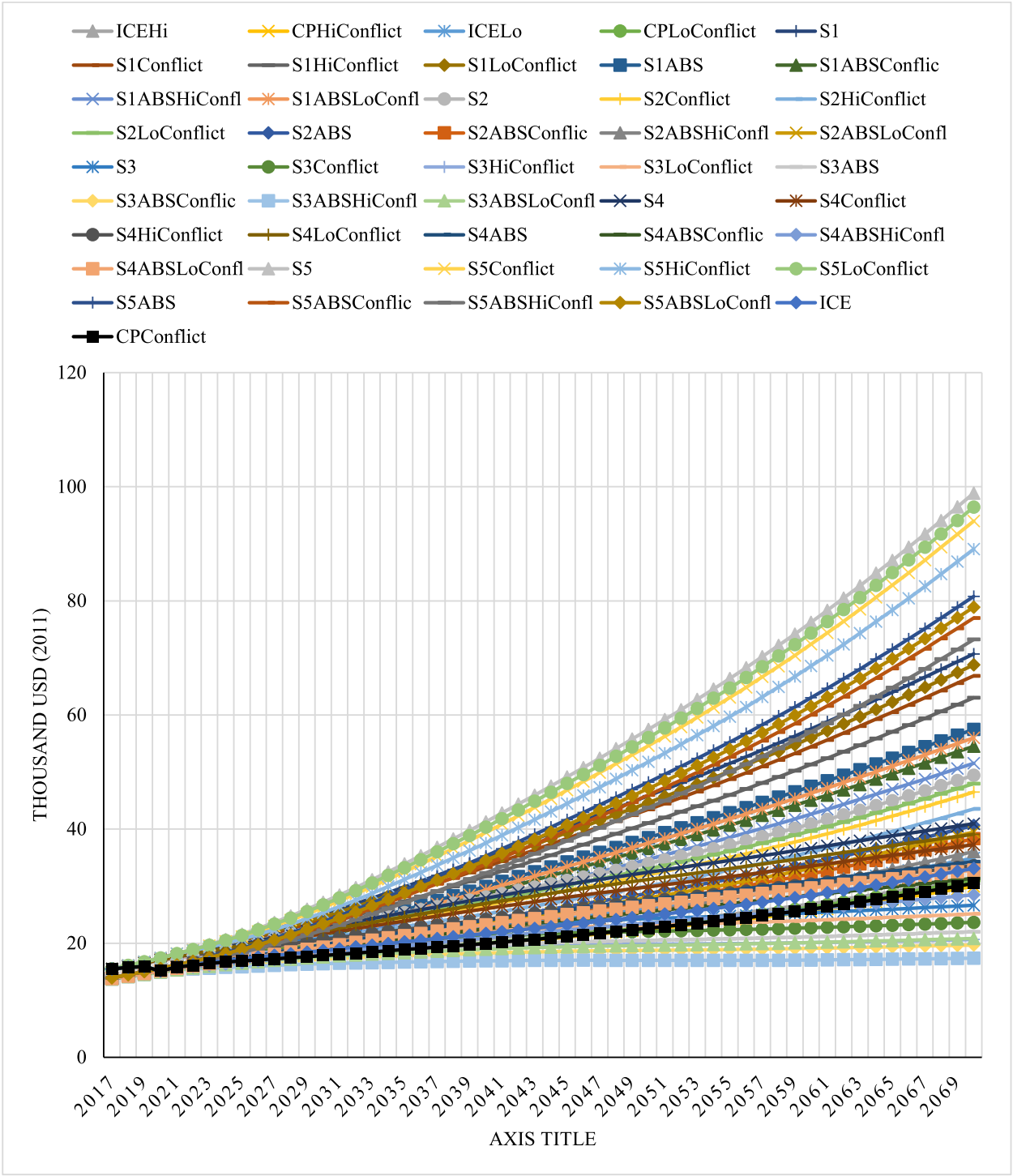

Fig. 10. All scenarios for global GDP per capita at PPP.

range of possible outcomes than described in the manuscript with some more extreme scenarios suggesting that conflict could increase the number of people in extreme poverty by over half a billion before the end of the time horizon, though these are a small handful (a total of three scenarios) of the total tested. Results also suggest that the *IFs Conflict* scenario (labeled as CPConflict in the graphs below) produces results that are generally in the middle of the broader distribution (this scenario is highlighted in dark black in all graphs below with a square marker).

Table 10
All scenarios for GDP per capita at PPP (2011$).

	2022	2030	2040	2050	2060	2070
ICE	16.2	18.73	21.7	24.79	28.41	33.11
CPConflict	16.1	17.84	19.96	22.62	25.97	30.48
ICEHi	16.15	18.26	20.77	23.55	26.9	31.38
CPHiConflict	16.1	17.81	19.89	22.44	25.62	29.97
ICELo	16.25	19.2	22.64	26.08	29.95	34.9
CPLoConflict	16.1	17.86	20.02	22.82	26.32	31.02
S1	18.62	25.05	35.01	45.84	57.55	70.7
S1Conflict	18.5	24.17	33.37	43.46	54.43	66.86
S1HiConflict	18.39	23.3	31.73	41.08	51.32	63.02
S1LoConflict	18.56	24.61	34.19	44.65	55.99	68.78
S1ABS	16.53	21.87	29.97	38.5	47.5	57.48
S1ABSConflic	16.44	21.16	28.65	36.61	45.06	54.51
S1ABSHiConfl	16.34	20.44	27.32	34.72	42.61	51.53
S1ABSLoConfl	16.48	21.52	29.31	37.55	46.28	56
S2	18.26	22.67	28.12	34.01	40.9	49.44
S2Conflict	18.14	21.81	26.62	32.02	38.45	46.49
S2HiConflict	18.02	20.95	25.13	30.04	36	43.53
S2LoConflict	18.2	22.24	27.37	33.02	39.68	47.96
S2ABS	16.13	19.75	24.12	28.75	34.08	40.63
S2ABSConflic	16.03	19.05	22.93	27.18	32.16	38.34
S2ABSHiConfl	15.94	18.36	21.73	25.61	30.24	36.05
S2ABSLoConfl	16.08	19.4	23.53	27.96	33.12	39.48
S3	17.91	20.81	22.99	24.3	25.32	26.65
S3Conflict	17.77	19.82	21.28	22.08	22.71	23.65
S3HiConflict	17.64	18.83	19.57	19.86	20.09	20.66
S3LoConflict	17.84	20.32	22.14	23.19	24.01	25.15
S3ABS	15.69	18	19.63	20.49	21.13	22
S3ABSConflic	15.58	17.2	18.26	18.75	19.09	19.68
S3ABSHiConfl	15.47	16.4	16.9	17	17.05	17.37
S3ABSLoConfl	15.64	17.6	18.95	19.62	20.11	20.84
S4	18.22	22.68	27.91	32.44	36.65	40.94
S4Conflict	18.09	21.65	26.03	29.89	33.51	37.26
S4HiConflict	17.96	20.63	24.16	27.34	30.38	33.58
S4LoConflict	18.16	22.17	26.97	31.17	35.08	39.1
S4ABS	16.06	19.74	24	27.61	30.92	34.27
S4ABSConflic	15.95	18.9	22.49	25.57	28.43	31.37
S4ABSHiConfl	15.84	18.07	20.97	23.52	25.95	28.47
S4ABSLoConfl	16.01	19.32	23.24	26.59	29.68	32.82
S5	18.94	27.17	41.27	57.47	76.25	98.89
S5Conflict	18.82	26.26	39.42	54.63	72.4	93.98
S5HiConflict	18.71	25.35	37.56	51.8	68.56	89.07
S5LoConflict	18.88	26.72	40.34	56.05	74.33	96.44
S5ABS	16.87	23.76	35.3	48.23	63.02	80.78
S5ABSConflic	16.77	23.02	33.82	46	60.04	77
S5ABSHiConfl	16.67	22.27	32.33	43.77	57.05	73.23
S5ABSLoConfl	16.82	23.39	34.56	47.12	61.53	78.89

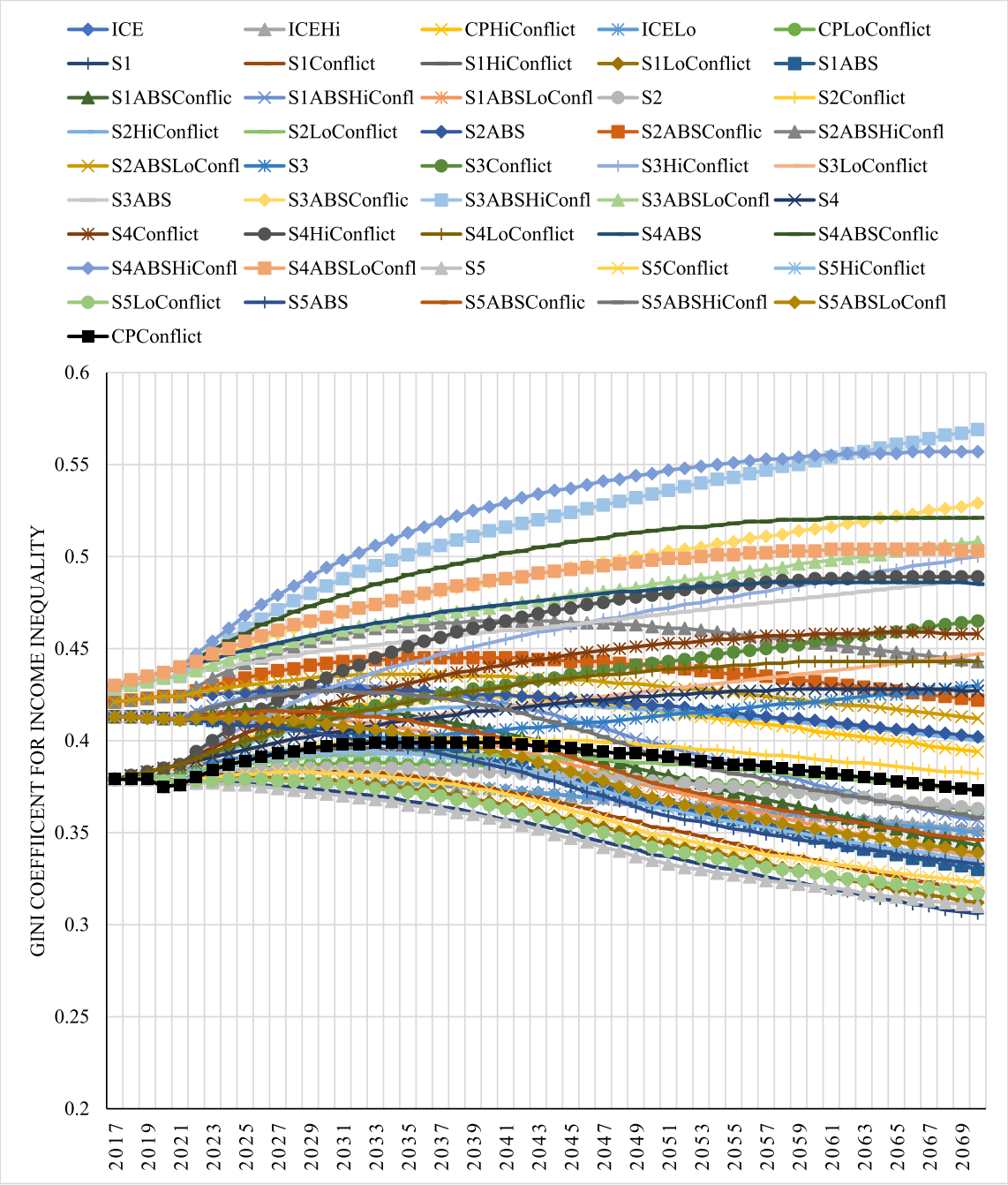

Fig. 11. All scenarios for the Gini coefficient for income inequality.

Table 11
All scenarios for Gini coefficient for income inequality.

	2022	2030	2040	2050	2060	2070
ICE	0.378	0.378	0.374	0.366	0.359	0.351
CPConflict	0.38	0.397	0.399	0.392	0.383	0.373
ICEHi	0.377	0.378	0.374	0.367	0.36	0.352
CPHiConflict	0.383	0.416	0.424	0.417	0.405	0.394
ICELo	0.378	0.379	0.374	0.366	0.359	0.35
CPLoConflict	0.379	0.387	0.386	0.379	0.371	0.362
S1	0.378	0.373	0.359	0.338	0.321	0.306
S1Conflict	0.38	0.384	0.374	0.353	0.335	0.318
S1HiConflict	0.382	0.395	0.389	0.368	0.349	0.331
S1LoConflict	0.379	0.379	0.367	0.346	0.328	0.312
S1ABS	0.412	0.406	0.39	0.367	0.347	0.33
S1ABSConflic	0.414	0.418	0.406	0.383	0.362	0.343
S1ABSHiConfl	0.416	0.429	0.422	0.399	0.376	0.357
S1ABSLoConfl	0.413	0.412	0.398	0.375	0.354	0.337
S2	0.383	0.385	0.383	0.378	0.371	0.363
S2Conflict	0.385	0.398	0.401	0.397	0.39	0.382
S2HiConflict	0.387	0.411	0.419	0.417	0.409	0.4
S2LoConflict	0.384	0.392	0.392	0.388	0.38	0.373
S2ABS	0.425	0.428	0.425	0.419	0.411	0.402
S2ABSConflic	0.427	0.442	0.445	0.441	0.432	0.422
S2ABSHiConfl	0.429	0.456	0.465	0.462	0.453	0.443
S2ABSLoConfl	0.426	0.435	0.435	0.43	0.421	0.412
S3	0.387	0.397	0.405	0.413	0.421	0.43
S3Conflict	0.389	0.412	0.429	0.442	0.454	0.465
S3HiConflict	0.392	0.428	0.453	0.471	0.486	0.5
S3LoConflict	0.388	0.405	0.417	0.427	0.437	0.447
S3ABS	0.437	0.449	0.459	0.468	0.478	0.488
S3ABSConflic	0.44	0.467	0.486	0.501	0.515	0.529
S3ABSHiConfl	0.442	0.484	0.514	0.534	0.552	0.569
S3ABSLoConfl	0.438	0.458	0.472	0.485	0.497	0.508
S4	0.389	0.404	0.416	0.424	0.428	0.427
S4Conflict	0.392	0.419	0.44	0.452	0.458	0.458
S4HiConflict	0.394	0.434	0.463	0.479	0.488	0.489
S4LoConflict	0.39	0.411	0.428	0.438	0.443	0.443
S4ABS	0.442	0.459	0.473	0.482	0.486	0.485
S4ABSConflic	0.445	0.476	0.5	0.514	0.52	0.521
S4ABSHiConfl	0.447	0.494	0.527	0.545	0.555	0.557
S4ABSLoConfl	0.443	0.467	0.487	0.498	0.503	0.503
S5	0.377	0.371	0.358	0.335	0.321	0.31
S5Conflict	0.379	0.382	0.373	0.349	0.334	0.323
S5HiConflict	0.381	0.393	0.388	0.364	0.348	0.335
S5LoConflict	0.378	0.377	0.365	0.342	0.328	0.317
S5ABS	0.411	0.403	0.387	0.361	0.345	0.333
S5ABSConflic	0.413	0.415	0.403	0.377	0.359	0.346
S5ABSHiConfl	0.415	0.427	0.419	0.392	0.373	0.358
S5ABSLoConfl	0.412	0.409	0.395	0.369	0.352	0.339

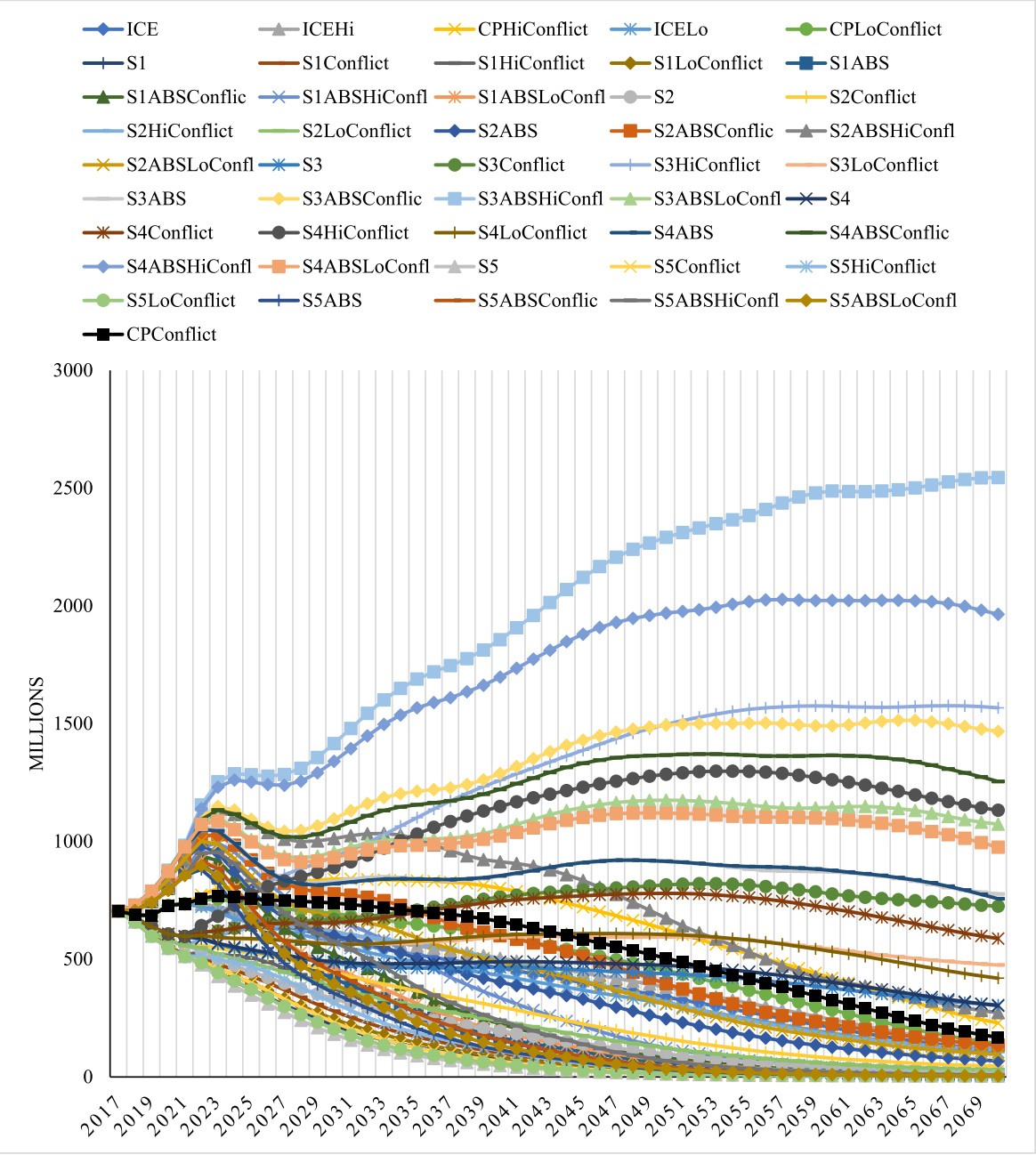

Fig. 12. All scenarios for millions living on less than $1.90 per day at PPP (2011$).

Table 12
All scenarios for population living on less than $1.90 per day at PPP (2011$).

	2022	2030	2040	2050	2060	2070
ICE	727.8	590.2	462.7	339.5	209.5	114
CPConflict	757.8	738.3	660.1	504.4	327.1	168.1
ICEHi	733.1	617.8	504.3	380.9	243.4	128.7
CPHiConflict	772.7	839.7	801.6	626	419.6	229.3
ICELo	721.7	566.4	430.6	309.5	186.6	104.6
CPLoConflict	750.8	693.6	599.7	451.9	284.7	141.3
S1	488.7	219.3	73.45	21	7.794	3.694
S1Conflict	508.1	279.3	101.5	28.94	10.43	5.009
S1HiConflict	528.9	374.2	156.7	46.41	15.94	7.129
S1LoConflict	498.2	245.6	85.21	24.32	8.94	4.297
S1ABS	904.2	416.1	167.5	60.42	18.56	6.071
S1ABSConflic	939.1	519.1	225.5	81.27	25.68	8.584
S1ABSHiConfl	975.7	668.5	335.7	122.8	40.69	13.69
S1ABSLoConfl	921.4	462	192.1	69.36	21.59	7.173
S2	535.9	331.9	195.3	97.55	42.2	21.01
S2Conflict	559.5	443.7	297.7	163.2	79.98	46.49
S2HiConflict	584.8	613	499.1	318.6	178.2	116.4
S2LoConflict	547.5	381.8	237.5	123.3	56.26	30.2
S2ABS	981.2	600.6	402.7	246.9	126.8	67.83
S2ABSConflic	1,021	778	600.2	396.6	224.1	135.5
S2ABSHiConfl	1,064	1,012	913.5	673.7	411	272.5
S2ABSLoConfl	1,001	682	488.2	308.7	166	94.83
S3	586.1	482.8	465.2	438.7	376.8	305.9
S3Conflict	614.5	668.8	764.1	815.2	777.5	725.4
S3HiConflict	644.9	934.6	1,260	1,497	1,574	1,567
S3LoConflict	600.1	566.3	592.5	594.7	542.2	475.1
S3ABS	1,060	831.3	852.2	916.7	870.6	776.8
S3ABSConflic	1,107	1,096	1,288	1,494	1,491	1,467
S3ABSHiConfl	1,155	1,415	1,856	2,291	2,488	2,545
S3ABSLoConfl	1,083	955.7	1,051	1,175	1,145	1,073
S4	588	488.4	489	473.7	402.4	302.6
S4Conflict	614.7	655	746	779.5	714.1	587.6
S4HiConflict	643.1	889.3	1,149	1,285	1,262	1,132
S4LoConflict	601.1	564.2	601.5	605.4	533	419.1
S4ABS	1,051	820.6	854.8	915.5	876.5	757.1
S4ABSConflic	1,093	1,055	1,221	1,367	1,366	1,255
S4ABSHiConfl	1,138	1,340	1,697	1,969	2,023	1,964
S4ABSLoConfl	1,072	930.5	1,023	1,120	1,097	975.2
S5	475.1	181	47.64	12.37	5.514	3.954
S5Conflict	493.9	231.6	67.77	16.71	7.024	4.897
S5HiConflict	514.1	313.4	111.2	27.72	10.26	6.24
S5LoConflict	484.3	203.5	55.81	14.14	6.181	4.398
S5ABS	880.8	355.6	114	30.19	8.913	4.315
S5ABSConflic	914.7	442.9	156.7	41.86	12.14	5.596
S5ABSHiConfl	950.3	573.4	240.5	68.2	20.04	8.119
S5ABSLoConfl	897.6	394.8	131.8	35.03	10.27	4.89

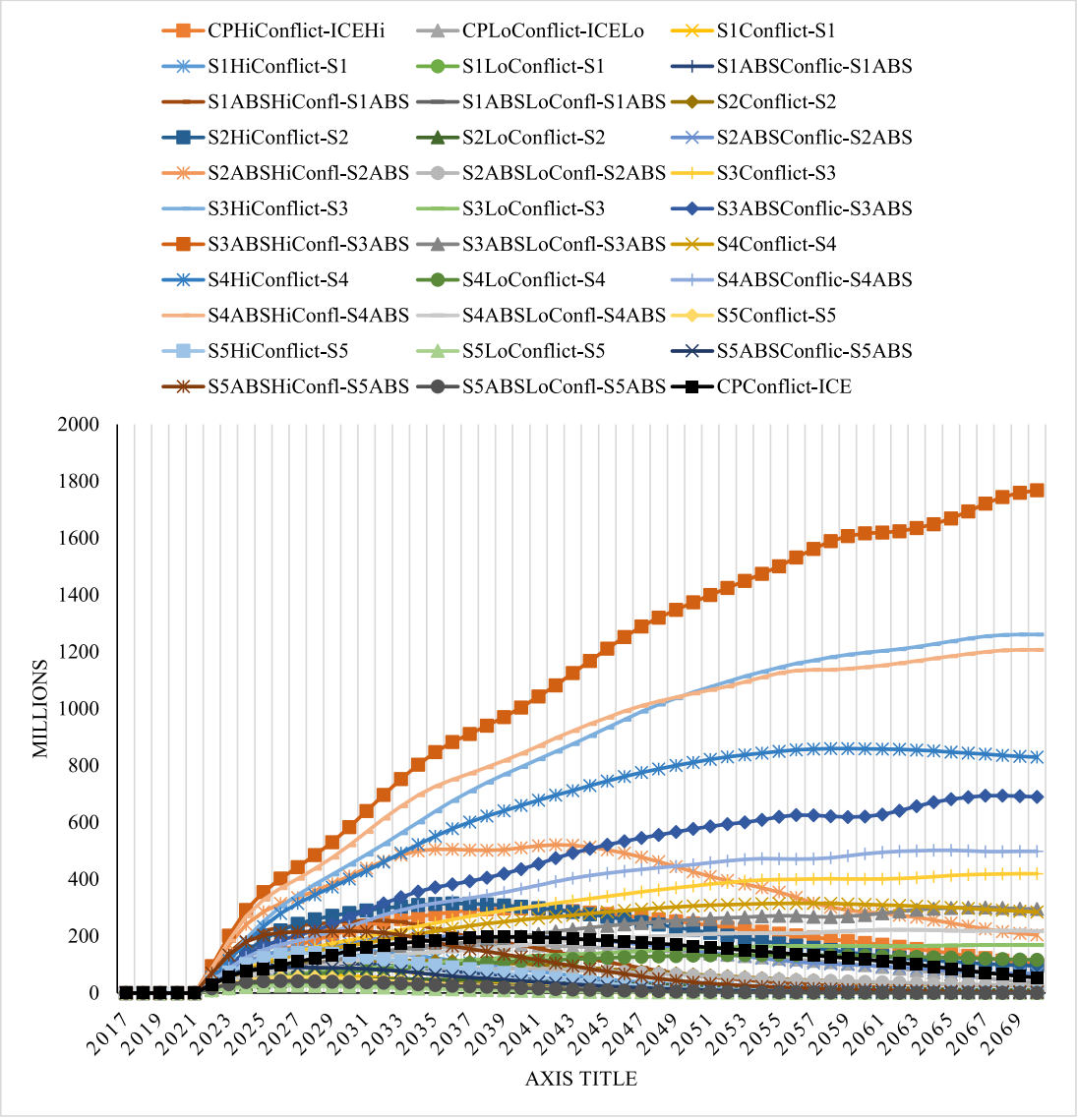

Fig. 13. All scenarios for the marginal effect of conflict on poverty in millions of people on less than $1.90 per day at PPP (2011$).

Table 13
All scenarios for increase in poverty driven by conflict.

	2022	2030	2040	2050	2060	2070
CPConflict-ICE	29.99	148.2	197.4	164.9	117.7	54.06
CPHiConflict-ICEHi	39.6	221.9	297.3	245.1	176.2	100.6
CPLoConflict-ICELo	29.18	127.2	169.2	142.5	98.1	36.61
S1Conflict-S1	19.46	60.04	28.03	7.942	2.637	1.315
S1HiConflict-S1	40.25	155	83.27	25.41	8.15	3.435
S1LoConflict-S1	9.551	26.36	11.76	3.322	1.147	0.603
S1ABSConflic-S1ABS	34.91	103	57.95	20.84	7.125	2.514
S1ABSHiConfl-S1ABS	71.57	252.4	168.1	62.34	22.13	7.616
S1ABSLoConfl-S1ABS	17.28	45.9	24.52	8.939	3.034	1.102
S2Conflict-S2	23.63	111.8	102.5	65.65	37.77	25.48
S2HiConflict-S2	48.94	281.2	303.9	221	136	95.37
S2LoConflict-S2	11.61	49.9	42.27	25.76	14.06	9.189
S2ABSConflic-S2ABS	40.08	177.4	197.4	149.7	97.33	67.63
S2ABSHiConfl-S2ABS	82.63	411.9	510.8	426.8	284.2	204.6
S2ABSLoConfl-S2ABS	19.84	81.43	85.48	61.74	39.19	27.01
S3Conflict-S3	28.33	186	298.9	376.5	400.7	419.5
S3HiConflict-S3	58.73	451.8	795.2	1,058	1,197	1,261
S3LoConflict-S3	13.92	83.52	127.3	156	165.4	169.2
S3ABSConflic-S3ABS	46.75	265.1	435.6	576.8	620.4	690
S3ABSHiConfl-S3ABS	94.47	583.4	1,004	1,374	1,617	1,768
S3ABSLoConfl-S3ABS	22.86	124.3	198.8	258.6	274.6	296
S4Conflict-S4	26.63	166.6	257.1	305.8	311.7	285
S4HiConflict-S4	55.02	400.9	659.8	811.4	859.2	829.5
S4LoConflict-S4	13.09	75.8	112.5	131.7	130.6	116.4
S4ABSConflic-S4ABS	42.48	234.5	366.5	451.7	489.3	498.3
S4ABSHiConfl-S4ABS	87.38	519.8	842	1,054	1,146	1,207
S4ABSLoConfl-S4ABS	21.04	109.9	167.7	204.9	220.1	218.1
S5Conflict-S5	18.82	50.67	20.13	4.345	1.511	0.942
S5HiConflict-S5	38.98	132.4	63.56	15.36	4.744	2.286
S5LoConflict-S5	9.251	22.48	8.168	1.772	0.667	0.444
S5ABSConflic-S5ABS	33.94	87.3	42.71	11.66	3.23	1.281
S5ABSHiConfl-S5ABS	69.54	217.8	126.5	38	11.13	3.804
S5ABSLoConfl-S5ABS	16.75	39.22	17.75	4.838	1.356	0.575

Appendix: $3.20 and $5.50 Results

Table 14
Millions of people living on less than $3.20 per day by scenario and region due to intrastate conflict.

World	**IFs**	**SSP1**	**SSP2**	**SSP3**	**SSP4**	**SSP5**	***Africa***	**IFs**	**SSP1**	**SSP2**	**SSP3**	**SSP4**	**SSP5**
2030	296.1	177.3	261.5	341.9	300.9	155.2	*2030*	56.34	46.85	58.01	68.7	63.88	42.96
2050	383.2	38.64	217.6	684.4	519.9	24.98	*2050*	175.6	18.07	65.47	173.7	165.6	9.1
2070	179.3	4.251	100.9	783.7	544.8	2.609	*2070*	97.88	2.297	14.7	218.8	235	0.97
Americas	**IFs**	**SSP1**	**SSP2**	**SSP3**	**SSP4**	**SSP5**	***Asia***	**IFs**	**SSP1**	**SSP2**	**SSP3**	**SSP4**	**SSP5**
2030	8.268	4.683	6.523	9.382	9.533	3.848	*2030*	230.9	125.5	196.6	263.1	226.8	108.1
2050	9.612	2.025	5.797	21.62	17.25	1.336	*2050*	197.5	18.47	146	488.1	335.9	14.52
2070	7.116	0.795	2.997	27.83	18.85	0.811	*2070*	74.15	1.146	83.12	535.6	289.5	0.825
Europe	**IFs**	**SSP1**	**SSP2**	**SSP3**	**SSP4**	**SSP5**	***Oceania***	**IFs**	**SSP1**	**SSP2**	**SSP3**	**SSP4**	**SSP5**
2030	0.655	0.219	0.325	0.541	0.515	0.166	*2030*	0.009	0.052	0.075	0.093	0.099	0.055
2050	0.408	0.054	0.189	0.824	0.814	0.026	*2050*	0.046	0.012	0.071	0.234	0.281	0.006
2070	0.261	0.011	0.076	1.319	1.266	0.002	*2070*	−0.052	0.001	0.008	0.182	0.226	0.001

Table 15
Millions of people living on less than $5.50 per day by scenario and region due to intrastate conflict.

World	**IFs**	**SSP1**	**SSP2**	**SSP3**	**SSP4**	**SSP5**	***Africa***	**IFs**	**SSP1**	**SSP2**	**SSP3**	**SSP4**	**SSP5**
2030	303.3	253.2	303.4	339.2	306.8	232.5	*2030*	30.31	42.95	44.91	47.88	42.83	42.73
2050	593	144.9	404.9	745.3	557.1	101.4	*2050*	192.4	41.89	102.3	156.4	128.6	24.98
2070	396.4	21.65	226.4	980.6	689.5	12.99	*2070*	174.3	6.385	38.49	278.9	247	2.78
Americas	**IFs**	**SSP1**	**SSP2**	**SSP3**	**SSP4**	**SSP5**	***Asia***	**IFs**	**SSP1**	**SSP2**	**SSP3**	**SSP4**	**SSP5**
2030	14.44	8.541	11	14.15	14.46	7.586	*2030*	254.4	200.6	246.2	275.1	247.7	181.4
2050	20.72	4.693	12.11	32.64	25.13	3.03	*2050*	376.9	97.99	289.7	553.7	401.2	73.31
2070	17.82	1.6	6.321	43.69	25.6	1.179	*2070*	202.3	13.6	181.2	654.6	414.4	9.014
Europe	**IFs**	**SSP1**	**SSP2**	**SSP3**	**SSP4**	**SSP5**	***Oceania***	**IFs**	**SSP1**	**SSP2**	**SSP3**	**SSP4**	**SSP5**
2030	4.176	1.006	1.217	1.978	1.691	0.649	*2030*	0.008	0.067	0.085	0.099	0.102	0.076
2050	2.909	0.249	0.675	2.268	1.805	0.101	*2050*	0.072	0.046	0.162	0.331	0.355	0.027
2070	2.153	0.064	0.308	2.924	2.13	0.014	*2070*	−0.121	0.002	0.037	0.365	0.384	0.001

Appendix: Results by country

Table 16
Probability of intrastate conflict by country and year for IFs Current Path scenario, 2022, 2030, 2040, 2050, 2060 and 2070.

	2022	**2030**	**2040**	**2050**	**2060**	**2070**
Afghanistan	0.998	0.975	0.903	0.864	0.822	0.766
Albania	0	0	0	0	0	0
Algeria	0.351	0.322	0.304	0.184	0.131	0.124
Angola	0.262	0.253	0.24	0.201	0.056	0
Argentina	0	0	0	0	0	0
Armenia	0	0	0	0	0	0
Australia	0	0	0	0	0	0
Austria	0	0	0	0	0	0
Azerbaijan	0	0	0	0	0	0.003
Bahrain	0	0	0	0	0.017	0.051
Bangladesh	0	0	0	0	0	0
Belarus	0.025	0.007	0.038	0.04	0.067	0.094
Belgium	0	0	0	0	0	0
Benin	0.0001	0	0	0	0	0
Bhutan	0.005	0	0	0	0	0
Bolivia	0.012	0	0	0	0	0
Bosnia and Herzegovina	0	0	0	0	0	0
Botswana	0	0	0	0	0	0
Brazil	0	0	0	0	0	0
Bulgaria	0	0	0	0	0	0
Burkina Faso	0.002	0	0	0	0	0
Burundi	0.365	0.312	0.269	0.201	0.05	0.014
Cabo Verde	0.027	0	0	0	0	0
Cambodia	0.026	0	0	0	0	0
Cameroon	0.004	0	0	0	0	0
Canada	0	0	0	0	0	0
Central African Republic	0.677	0.658	0.554	0.406	0.37	0.314
Chad	0.334	0.287	0.242	0.183	0.122	0.052
Chile	0	0	0	0	0	0
China	0.378	0.379	0.396	0.404	0.425	0.44
Colombia	0.958	0.874	0.822	0.804	0.785	0.772
Comoros	0.005	0	0	0	0	0
Congo	0.13	0.098	0.086	0.067	0.054	0.003
Congo, Dem. Republic of the	0.995	0.981	0.961	0.94	0.923	0.814
Costa Rica	0	0	0	0	0	0
Cote D'Ivoire	0.244	0.212	0.066	0.027	0	0
Croatia	0	0	0	0	0	0
Cuba	0	0	0.017	0.037	0.06	0.074
Cyprus	0	0	0	0	0	0
Czech Republic	0	0	0	0	0	0
Denmark	0	0	0	0	0	0
Djibouti	0.009	0	0	0	0	0
Dominican Republic	0	0	0	0	0	0
Ecuador	0.009	0.003	0	0	0	0
Egypt	0.42	0.39	0.353	0.331	0.315	0.269
El Salvador	0.006	0	0	0	0	0
Equatorial Guinea	0	0	0.006	0.019	0.03	0.035
Eritrea	0.035	0.023	0.008	0	0.004	0
Estonia	0	0	0	0	0	0
Eswatini	0.01	0.002	0	0	0	0
Ethiopia	0.656	0.634	0.606	0.554	0.486	0.182
Fiji	0.003	0	0	0	0	0

Table 16 (*continued*)

	2022	2030	2040	2050	2060	2070
Finland	0	0	0	0	0	0
France	0	0	0	0	0	0
Gabon	0	0	0	0	0	0
Gambia	0.017	0	0	0	0	0
Georgia	0	0	0	0	0	0
Germany	0	0	0	0	0	0
Ghana	0.006	0	0	0	0	0
Greece	0	0	0	0	0	0
Guatemala	0.001	0	0	0	0	0
Guinea	0.099	0	0	0	0	0
Guinea Bissau	0.116	0.059	0.029	0	0	0
Guyana	0	0	0	0	0	0
Haiti	0.023	0	0	0	0	0
Honduras	0.033	0	0	0	0	0
Hungary	0	0	0	0	0	0
India	0.978	0.936	0.795	0.481	0.47	0.466
Indonesia	0.373	0.319	0.263	0.238	0.228	0.227
Iran	0	0	0	0	0	0
Iraq	0.786	0.738	0.695	0.641	0.592	0.546
Ireland	0.004	0	0	0	0	0
Israel	0.99	0.983	0.966	0.913	0.887	0.871
Italy	0	0	0	0	0	0
Jamaica	0.004	0	0	0	0	0
Japan	0	0	0	0	0	0
Jordan	0.001	0	0	0	0	0
Kazakhstan	0	0	0.042	0.022	0.032	0.03
Kenya	0.01	0	0	0	0	0
Korea, Dem. People's Republic	0.006	0	0.009	0.033	0.046	0.065
Korea, Republic of	0	0	0	0	0	0
Kosovo	0.08	0.054	0.061	0.052	0.036	0.041
Kuwait	0	0.002	0.019	0.007	0.025	0.05
Kyrgyzstan	0.044	0	0	0	0	0
Lao People's Dem. Republic	0.002	0	0	0	0	0
Latvia	0	0	0	0	0	0
Lebanon	0.105	0.103	0.059	0	0	0
Lesotho	0.069	0	0	0	0	0
Liberia	0.225	0	0	0	0	0
Libya	0.242	0.233	0.232	0.218	0.237	0.228
Lithuania	0	0	0	0	0	0
Luxembourg	0	0	0	0	0	0
Macedonia, North	0	0	0	0	0	0
Madagascar	0.083	0	0	0	0	0
Malawi	0.01	0	0	0	0	0
Malaysia	0	0	0	0	0	0
Mali	0.313	0.277	0.22	0	0	0
Mauritania	0.011	0	0	0	0	0
Mauritius	0	0	0	0	0	0
Mexico	0.53	0.485	0.436	0.397	0.383	0.37
Moldova, Republic of	0	0	0	0	0	0
Mongolia	0.012	0	0	0	0	0
Montenegro	0	0	0	0	0	0
Morocco	0.004	0	0	0	0	0
Mozambique	0.028	0.001	0	0	0	0
Myanmar	0.991	0.948	0.887	0.879	0.865	0.855
Namibia	0.001	0	0	0	0	0
Nepal	0.482	0.384	0.261	0.221	0.076	0.053
Netherlands	0	0	0	0	0	0
New Zealand	0	0	0	0	0	0
Nicaragua	0.002	0	0	0	0	0
Niger	0.044	0.037	0.011	0	0	0
Nigeria	0.607	0.598	0.56	0.418	0.359	0.245
Norway	0	0	0	0	0	0
Oman	0	0	0	0	0	0
Pakistan	0.731	0.675	0.632	0.592	0.552	0.491
Panama	0	0	0	0	0	0
Papua New Guinea	0.02	0	0	0	0	0
Paraguay	0	0	0	0	0	0
Peru	0.002	0	0	0	0	0
Philippines	0.983	0.939	0.84	0.744	0.713	0.692
Poland	0	0	0	0	0	0
Portugal	0	0	0	0	0	0
Qatar	0	0	0	0	0	0
Romania	0	0	0	0	0	0
Russian Federation	0.851	0.852	0.864	0.822	0.824	0.826
Rwanda	0.139	0.071	0.051	0.003	0	0

(*continued on next page*)

Table 16 (*continued*)

	2022	2030	2040	2050	2060	2070
Saudi Arabia	0	0	0.001	0	0.006	0.028
Senegal	0.088	0.068	0.03	0	0	0
Serbia	0	0	0	0	0	0
Sierra Leone	0.219	0	0	0	0	0
Singapore	0	0	0	0	0	0
Slovakia	0	0	0	0	0	0
Slovenia	0	0	0	0	0	0
Solomon Islands	0.168	0.025	0.024	0	0	0
Somalia	1	0.992	0.936	0.893	0.832	0.58
South Africa	0	0	0	0	0	0
Spain	0	0	0	0	0	0
Sri Lanka	0.59	0.524	0.416	0.378	0.368	0.355
Sudan	1	0.992	0.97	0.959	0.95	0.827
Suriname	0	0	0	0	0	0
Sweden	0	0	0	0	0	0
Switzerland	0	0	0	0	0	0
Syrian Arab Republic	0.405	0.337	0.306	0.316	0.322	0.322
Taiwan	0	0	0	0	0	0
Tajikistan	0.078	0	0.005	0	0	0
Tanzania	0	0	0	0	0	0
Thailand	0.7	0.693	0.683	0.655	0.631	0.606
Timor-Leste	0.115	0	0	0	0	0
Togo	0.001	0.001	0	0	0	0
Trinidad and Tobago	0	0	0	0	0	0
Tunisia	0.055	0.016	0	0	0	0
Turkey	0.845	0.836	0.828	0.823	0.79	0.756
Turkmenistan	0	0	0.005	0	0	0.008
Uganda	0.435	0.399	0.325	0.257	0.088	0
Ukraine	1	0.041	0.029	0	0	0
United Arab Emirates	0	0	0	0	0	0.013
United Kingdom	0	0	0	0	0	0
United States of America	0	0	0	0	0	0
Uruguay	0	0	0	0	0	0
Uzbekistan	0	0	0	0	0	0
Venezuela, Bolivarian Republic	0.114	0.043	0.04	0.012	0	0
Viet Nam	0	0	0	0	0.012	0.032
Yemen	0.75	0.601	0.551	0.512	0.473	0.433
Zambia	0.019	0	0	0	0	0
Zimbabwe	0.045	0	0	0	0	0

Table 17
GDP per capita at PPP (2011$) by country and year for IFs Current Path scenario, 2022, 2030, 2040, 2050, 2060 and 2070.

	2022	2030	2040	2050	2060	2070
Afghanistan	1.84	2.108	2.595	3.426	4.67	6.583
Albania	12.63	14.5	17.85	22.83	28.89	35.93
Algeria	13.29	13.44	14.17	15.22	16.91	18.15
Angola	5.473	5.988	7.116	8.895	11.46	14.87
Argentina	17.53	18.7	20.1	21.48	22.7	23.85
Armenia	10.38	12.3	15.02	17.89	20.78	24.68
Australia	49.93	57.18	67.44	78.29	89.26	101.7
Austria	45.9	48.74	50.76	54.72	60.32	69.88
Azerbaijan	15.04	17.41	21.31	24.98	28.54	32.98
Bahrain	45.74	46.89	44.63	40.68	37.69	36.92
Bangladesh	4.221	5.392	7.182	9.486	12.28	15.64
Belarus	15.82	17.33	19	20.84	23.3	26.96
Belgium	45.1	49.92	55.42	62.84	72.05	83.03
Benin	3.092	3.711	5.217	8.006	12.86	20.44
Bhutan	8.316	9.405	9.962	10.74	11.79	13.59
Bolivia	6.535	7.436	9.223	11.78	15.03	19.22
Bosnia and Herzegovina	13.39	15.51	19.22	23.55	30	37.48
Botswana	16.68	18.97	22.82	27.56	33.97	42.69
Brazil	14.28	15.44	16.97	18.62	20.15	21.59
Bulgaria	19.4	22.46	24.67	25.91	27.48	29.95
Burkina Faso	2.028	2.45	3.333	4.799	7.094	10.36
Burundi	0.619	0.701	0.865	1.186	1.842	2.815
Cabo Verde	6.106	7.305	8.683	10.26	12.25	14.93
Cambodia	3.763	4.712	6.49	9.121	12.48	16.61
Cameroon	3.371	3.733	4.332	5.283	6.665	8.479
Canada	46.06	49.98	55.29	61.96	68.9	77.5
Central African Republic	0.825	0.943	1.159	1.604	2.484	3.989

Table 17 (*continued*)

	2022	2030	2040	2050	2060	2070
Chad	1.622	1.83	2.295	3.247	5.009	8.006
Chile	23.01	24.66	26.77	29.36	32.11	36.31
China	17.64	22.42	28.5	35.23	43.41	55.17
Colombia	13.98	15.55	17.51	19.47	21.56	24.01
Comoros	2.493	2.774	3.362	4.34	5.86	8.117
Congo	3.749	4.582	6.5	9.672	15.44	24.44
Congo, Dem. Republic of the	0.9	1.198	2.005	3.617	6.333	10.46
Costa Rica	16.44	18.62	22.28	27.17	33.15	40.15
Cote D'Ivoire	5.327	6.415	8.634	12.05	16.89	23.15
Croatia	25.3	29.45	34.7	41.51	49.49	58.6
Cuba	18.81	20.04	21.35	23.62	25.89	28.6
Cyprus	35.34	37.92	42.23	47.16	52.08	60.35
Czech Republic	33.35	36.58	38.9	40.17	43.44	49.15
Denmark	52.37	58.93	68.29	82.44	98.1	115.2
Djibouti	3.717	4.659	6.304	8.212	10.19	12.17
Dominican Republic	16.8	19.75	24.57	30.05	36.75	44.72
Ecuador	9.656	10.29	11.29	12.45	13.57	14.88
Egypt	11.08	12.48	14.99	17.93	21.19	24.61
El Salvador	7.39	8.491	10.46	12.56	14.61	16.61
Equatorial Guinea	16.41	15.09	17.18	19.27	21.62	24.28
Eritrea	1.292	1.721	2.872	5.223	9.587	15.87
Estonia	32.6	35.34	42.8	53.13	68.3	87.69
Eswatini	8.98	10.44	13.61	17.85	23.33	29.86
Ethiopia	1.895	2.425	3.576	5.573	8.736	13.61
Fiji	8.809	10.72	12.86	15.64	19.16	23.47
Finland	43.67	46.76	51.07	57.93	66.94	78.39
France	40.96	43.76	46.84	51.84	58.92	67.77
Gabon	14.9	15.5	16.67	18.18	20.34	23.39
Gambia	2.32	2.756	3.51	4.986	7.114	10.1
Georgia	11.83	14.31	17.24	20.35	24.2	29.78
Germany	45.77	48.95	52.14	57.75	65.01	75.36
Ghana	4.358	5.285	7.19	10.41	15.63	23.02
Greece	25.77	28.22	31.28	35.36	42.31	51.05
Guatemala	8	8.9	10.68	12.82	14.95	16.96
Guinea	2.444	2.822	3.484	4.512	5.848	7.537
Guinea Bissau	1.529	1.743	2.222	3.117	4.672	7.43
Guyana	28.57	57.96	79.83	91.26	100.9	109.1
Haiti	2.677	2.934	3.429	4.243	5.432	7.079
Honduras	4.574	5.281	6.761	8.816	11.45	14.82
Hungary	30.08	34.05	37.78	42.44	47.71	54.21
India	6.823	8.596	11.31	15.3	19.94	24.84
Indonesia	12.16	13.66	15.1	16.46	18.01	19.94
Iran	16.97	17.54	18.11	17.7	17.46	18.41
Iraq	14.83	16.72	20.51	26.02	32.44	40.89
Ireland	90.73	114.2	132	145.8	161.1	172.9
Israel	38.39	45.99	57.68	72.13	88.63	105.6
Italy	36.09	39.64	43.06	48.14	55.57	65.71
Jamaica	7.924	8.591	9.546	10.96	12.75	15.06
Japan	40.78	45.49	49.4	54.16	61.28	71.12
Jordan	8.304	9.219	10.12	11.28	12.9	14.67
Kazakhstan	23.76	27.21	31.61	35.53	40.35	46.44
Kenya	3.296	3.902	5.112	7.089	9.873	13.19
Korea, Dem. People's Republic	2.18	2.323	2.589	3.026	3.65	4.699
Korea, Republic of	40.71	46.65	53.58	63.18	76.22	91.69
Kosovo	11.02	12.77	15.59	18.84	22.8	28.49
Kuwait	58.96	57.57	50.74	42.76	38.4	35.17
Kyrgyzstan	3.581	3.937	4.39	5.019	5.859	7.069
Lao People's Dem. Republic	5.987	7.525	10.85	15.78	22.43	30.79
Latvia	27.02	31.21	37.37	48.35	62.77	83.16
Lebanon	8.716	9.337	11.1	13.07	14.39	15.59
Lesotho	2.336	2.654	3.243	4.118	5.315	6.861
Liberia	1.114	1.333	1.85	2.945	5.056	8.861
Libya	36.27	45.09	54.29	62.74	75.44	89.21
Lithuania	33.97	39.8	52.74	68.7	85.65	104.8
Luxembourg	100.9	103.2	103.6	105.6	108.3	110.9
Macedonia, North	13.72	15.47	17.67	20.17	23.34	27.99
Madagascar	1.58	1.748	2.057	2.538	3.289	4.297
Malawi	1.174	1.467	2.14	3.396	5.569	8.877
Malaysia	27.09	30.61	33.81	36.85	39.58	44.52
Mali	1.958	2.203	2.687	3.638	5.238	7.614
Mauritania	4.776	5.3	6.102	7.39	9.238	11.62
Mauritius	19.58	21.87	23.31	25.9	29.05	32.57
Mexico	16.86	17.46	18.06	18.74	19.28	19.72
Moldova, Republic of	9.571	11	13.07	14.61	15.98	18.54

(*continued on next page*)

Table 17 (*continued*)

	2022	2030	2040	2050	2060	2070
Mongolia	11.46	14.37	18.64	24.27	31.06	41.09
Montenegro	16.96	18.63	20.93	24.34	29.01	36.46
Morocco	7.458	8.279	9.436	10.79	12.49	14.79
Mozambique	1.239	1.55	2.191	3.333	5.103	7.587
Myanmar	4.095	4.767	5.332	5.947	6.598	7.388
Namibia	8.52	9.914	12.98	18.66	27.25	38.78
Nepal	3.144	3.717	4.628	5.931	7.628	9.791
Netherlands	53	57.07	63.15	72.92	83.2	93.92
New Zealand	40.89	47.01	55.04	65.75	77.08	89.27
Nicaragua	5.219	5.498	6.174	6.887	7.826	9.122
Niger	1.316	1.617	2.165	3.178	4.807	7.205
Nigeria	4.84	5.262	6.284	8.107	11.2	15.55
Norway	71.03	79.66	88.04	99.72	112.6	127.1
Oman	39.77	39.57	39.19	35.96	33.42	34.96
Pakistan	4.748	5.129	5.825	6.924	8.451	10.46
Panama	21.37	24.21	27.5	30.77	34.11	39.65
Papua New Guinea	3.943	4.619	5.717	7.293	9.215	11.29
Paraguay	12.11	13.34	15.05	16.92	18.57	20.36
Peru	12.26	13.68	15.48	17.45	19.67	22.19
Philippines	8.014	9.673	11.9	14.88	18.21	21.88
Poland	30.05	34.55	41.89	50.25	58.96	70.97
Portugal	29.38	31.71	34.19	38.36	45.4	54.5
Qatar	117.9	124.7	124.1	112.4	99.06	96.58
Romania	25.35	28.99	32.26	35.25	38.48	44.76
Russian Federation	22.28	24.46	27.05	29.09	30.09	32
Rwanda	2.069	2.706	4.019	6.302	9.757	14.11
Saudi Arabia	55.01	55.98	54.96	52.17	50.41	50.13
Senegal	3.355	4.346	6.024	8.698	12.5	17.46
Serbia	17.29	20.08	23.7	27.57	31.7	36.97
Sierra Leone	1.384	1.59	2.036	2.84	4.203	6.453
Singapore	97.7	111.4	123.2	133.2	140.8	151
Slovakia	30.77	34.56	37.27	39.21	41.4	45.58
Slovenia	35.1	39.89	45.59	51.24	59.99	72.85
Solomon Islands	2.182	2.511	3.133	3.928	5.111	6.762
Somalia	0.969	1.164	1.784	3.301	6.653	13.9
South Africa	12.81	13.39	14.22	15.05	15.75	16.6
Spain	34.97	39.02	40.84	42.73	47.77	55.13
Sri Lanka	11.57	12.99	15.23	18.11	21.89	26.49
Sudan	3.31	3.467	3.671	4.097	4.744	5.608
Suriname	11.06	12.14	12.96	14.37	16.22	18.61
Sweden	51.26	59.92	71.1	84.3	98.13	115.3
Switzerland	64.8	70.24	77.59	87.25	98.71	113.2
Syrian Arab Republic	4.381	3.692	3.54	3.573	3.686	3.93
Taiwan	41.6	47.13	54.95	62.16	70.57	80.1
Tajikistan	3.671	4.313	5.919	8.2	11.42	15.83
Tanzania	2.818	3.326	4.333	6.001	8.795	13.28
Thailand	16.02	17.77	18.93	20.6	23.24	26.63
Timor-Leste	2.497	2.992	4.141	6.067	9.421	14.13
Togo	1.611	2.028	2.942	4.622	7.662	12.84
Trinidad and Tobago	26.23	28.53	30.7	33.2	35.81	41.81
Tunisia	10.39	11.04	12.13	13.55	15.4	18.04
Turkey	27.02	31.34	37.05	44.18	52.94	61.86
Turkmenistan	16.68	19.09	23.98	29.69	36.83	47.01
Uganda	2.529	3.046	4.262	6.479	9.647	14.33
Ukraine	5.743	6.612	7.241	7.893	8.387	9.144
United Arab Emirates	78.03	82.45	75.08	61.53	49.68	49.34
United Kingdom	41.85	44.36	47.58	52.16	58.25	66.62
United States of America	59.28	64.62	72.41	81.95	91.19	100.8
Uruguay	20.37	23.63	30.25	40.77	53.92	67.96
Uzbekistan	8.443	9.88	12.3	15.12	18.54	23.21
Venezuela, Bolivarian Republic	4.178	4.184	4.416	5.236	6.554	8.218
Viet Nam	6.842	8.638	11.09	13.83	17.05	21.55
Yemen	1.734	1.997	2.472	3.21	4.267	5.819
Zambia	3.494	4.001	4.801	5.706	6.907	8.704
Zimbabwe	2.411	2.806	3.804	5.333	7.831	11.29

Table 18
Gini coefficient for income inequality by country and year for IFs Current Path scenario, 2022, 2030, 2040, 2050, 2060 and 2070.

	2022	2030	2040	2050	2060	2070
Afghanistan	0.463	0.525	0.564	0.571	0.573	0.57
Albania	0.328	0.323	0.319	0.312	0.305	0.299
Algeria	0.272	0.279	0.275	0.269	0.263	0.256
Angola	0.517	0.544	0.547	0.537	0.521	0.507
Argentina	0.416	0.412	0.403	0.395	0.39	0.385
Armenia	0.336	0.344	0.347	0.349	0.354	0.356
Australia	0.341	0.336	0.33	0.327	0.324	0.322
Austria	0.294	0.29	0.284	0.28	0.278	0.277
Azerbaijan	0.262	0.259	0.249	0.238	0.23	0.222
Bahrain	0.357	0.334	0.302	0.27	0.246	0.23
Bangladesh	0.324	0.319	0.308	0.294	0.277	0.259
Belarus	0.245	0.239	0.229	0.224	0.224	0.228
Belgium	0.273	0.272	0.269	0.269	0.27	0.271
Benin	0.488	0.508	0.526	0.534	0.532	0.525
Bhutan	0.351	0.351	0.359	0.346	0.336	0.325
Bolivia	0.432	0.416	0.4	0.387	0.376	0.366
Bosnia and Herzegovina	0.331	0.345	0.351	0.359	0.372	0.358
Botswana	0.525	0.508	0.483	0.466	0.45	0.431
Brazil	0.53	0.525	0.512	0.5	0.489	0.48
Bulgaria	0.403	0.403	0.4	0.397	0.397	0.398
Burkina Faso	0.359	0.381	0.399	0.406	0.405	0.399
Burundi	0.385	0.382	0.369	0.355	0.333	0.314
Cabo Verde	0.428	0.443	0.462	0.481	0.499	0.493
Cambodia	0.444	0.434	0.421	0.407	0.392	0.375
Cameroon	0.466	0.467	0.468	0.466	0.461	0.455
Canada	0.331	0.329	0.327	0.324	0.323	0.323
Central African Republic	0.579	0.636	0.655	0.646	0.636	0.624
Chad	0.433	0.442	0.436	0.42	0.398	0.371
Chile	0.439	0.431	0.421	0.409	0.4	0.391
China	0.385	0.397	0.395	0.381	0.369	0.36
Colombia	0.505	0.539	0.548	0.545	0.539	0.533
Comoros	0.452	0.454	0.452	0.448	0.441	0.431
Congo	0.477	0.469	0.457	0.435	0.415	0.391
Congo, Dem. Republic of the	0.436	0.479	0.486	0.485	0.478	0.461
Costa Rica	0.479	0.472	0.462	0.453	0.444	0.435
Cote D'Ivoire	0.42	0.439	0.437	0.426	0.412	0.4
Croatia	0.301	0.3	0.295	0.292	0.291	0.29
Cuba	0.419	0.422	0.412	0.407	0.401	0.393
Cyprus	0.303	0.294	0.283	0.275	0.269	0.264
Czech Republic	0.25	0.254	0.254	0.254	0.256	0.257
Denmark	0.283	0.277	0.271	0.265	0.261	0.258
Djibouti	0.412	0.409	0.403	0.394	0.382	0.37
Dominican Republic	0.418	0.41	0.4	0.39	0.382	0.373
Ecuador	0.443	0.436	0.425	0.413	0.403	0.397
Egypt	0.324	0.351	0.366	0.373	0.376	0.374
El Salvador	0.374	0.371	0.367	0.364	0.358	0.352
Equatorial Guinea	0.519	0.531	0.517	0.5	0.479	0.456
Eritrea	0.445	0.426	0.397	0.374	0.357	0.338
Estonia	0.302	0.301	0.295	0.291	0.291	0.29
Eswatini	0.531	0.511	0.496	0.483	0.47	0.456
Ethiopia	0.361	0.396	0.408	0.398	0.377	0.348
Fiji	0.364	0.361	0.357	0.354	0.351	0.347
Finland	0.274	0.272	0.268	0.268	0.268	0.27
France	0.315	0.313	0.308	0.306	0.305	0.304
Gabon	0.379	0.383	0.377	0.363	0.361	0.355
Gambia	0.357	0.363	0.368	0.37	0.369	0.366
Georgia	0.368	0.355	0.333	0.317	0.312	0.31
Germany	0.318	0.315	0.312	0.309	0.307	0.307
Ghana	0.434	0.442	0.449	0.45	0.445	0.437
Greece	0.341	0.334	0.326	0.321	0.317	0.317
Guatemala	0.482	0.482	0.478	0.472	0.467	0.462
Guinea	0.342	0.347	0.349	0.344	0.335	0.325
Guinea Bissau	0.504	0.523	0.549	0.574	0.591	0.597
Guyana	0.456	0.413	0.402	0.403	0.393	0.375
Haiti	0.404	0.408	0.411	0.419	0.428	0.435
Honduras	0.498	0.509	0.522	0.536	0.547	0.535
Hungary	0.306	0.305	0.302	0.3	0.299	0.298
India	0.364	0.402	0.408	0.39	0.368	0.35
Indonesia	0.378	0.381	0.371	0.357	0.346	0.336
Iran	0.406	0.402	0.391	0.374	0.363	0.351
Iraq	0.295	0.314	0.312	0.299	0.281	0.263
Ireland	0.307	0.304	0.294	0.289	0.287	0.283

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Table 18 (*continued*)

	2022	2030	2040	2050	2060	2070
Israel	0.393	0.424	0.43	0.425	0.42	0.415
Italy	0.357	0.354	0.347	0.343	0.34	0.337
Jamaica	0.451	0.449	0.443	0.438	0.432	0.426
Japan	0.326	0.321	0.313	0.306	0.306	0.306
Jordan	0.329	0.309	0.306	0.307	0.308	0.308
Kazakhstan	0.273	0.282	0.278	0.268	0.265	0.263
Kenya	0.398	0.389	0.375	0.364	0.353	0.344
Korea, Dem. People's Republic	0.387	0.38	0.378	0.378	0.376	0.368
Korea, Republic of	0.304	0.294	0.281	0.271	0.262	0.254
Kosovo	0.287	0.289	0.284	0.283	0.281	0.278
Kuwait	0.375	0.368	0.356	0.344	0.329	0.316
Kyrgyzstan	0.278	0.298	0.307	0.313	0.321	0.323
Lao People's Dem. Republic	0.382	0.371	0.359	0.34	0.319	0.299
Latvia	0.349	0.343	0.336	0.331	0.331	0.332
Lebanon	0.309	0.293	0.293	0.297	0.299	0.297
Lesotho	0.444	0.446	0.452	0.46	0.467	0.47
Liberia	0.352	0.357	0.366	0.367	0.36	0.354
Libya	0.349	0.331	0.34	0.334	0.332	0.326
Lithuania	0.365	0.359	0.353	0.35	0.351	0.354
Luxembourg	0.344	0.34	0.328	0.321	0.314	0.307
Macedonia, North	0.339	0.334	0.324	0.318	0.315	0.312
Madagascar	0.424	0.433	0.434	0.432	0.436	0.434
Malawi	0.44	0.419	0.407	0.397	0.383	0.369
Malaysia	0.408	0.407	0.402	0.394	0.384	0.376
Mali	0.324	0.344	0.366	0.378	0.382	0.383
Mauritania	0.321	0.337	0.349	0.356	0.359	0.358
Mauritius	0.365	0.353	0.325	0.299	0.27	0.24
Mexico	0.454	0.471	0.465	0.454	0.445	0.437
Moldova, Republic of	0.263	0.276	0.278	0.279	0.28	0.279
Mongolia	0.316	0.314	0.308	0.289	0.273	0.261
Montenegro	0.369	0.343	0.318	0.301	0.294	0.295
Morocco	0.39	0.39	0.388	0.387	0.388	0.387
Mozambique	0.534	0.529	0.523	0.518	0.51	0.501
Myanmar	0.3	0.337	0.359	0.365	0.363	0.361
Namibia	0.57	0.546	0.519	0.493	0.464	0.437
Nepal	0.326	0.352	0.342	0.334	0.324	0.313
Netherlands	0.285	0.283	0.28	0.282	0.284	0.285
New Zealand	0.352	0.346	0.338	0.333	0.329	0.326
Nicaragua	0.457	0.454	0.449	0.443	0.437	0.431
Niger	0.344	0.365	0.382	0.387	0.383	0.378
Nigeria	0.35	0.379	0.399	0.401	0.384	0.358
Norway	0.267	0.263	0.257	0.254	0.253	0.253
Oman	0.373	0.37	0.363	0.354	0.347	0.342
Pakistan	0.32	0.356	0.367	0.374	0.377	0.378
Panama	0.497	0.496	0.488	0.477	0.467	0.458
Papua New Guinea	0.419	0.421	0.423	0.422	0.423	0.422
Paraguay	0.48	0.474	0.466	0.458	0.453	0.447
Peru	0.429	0.422	0.415	0.408	0.401	0.397
Philippines	0.429	0.474	0.488	0.487	0.482	0.474
Poland	0.294	0.292	0.286	0.28	0.278	0.277
Portugal	0.334	0.326	0.315	0.305	0.295	0.29
Qatar	0.395	0.384	0.376	0.368	0.356	0.338
Romania	0.357	0.353	0.345	0.338	0.333	0.327
Russian Federation	0.371	0.409	0.421	0.417	0.413	0.412
Rwanda	0.433	0.433	0.428	0.417	0.403	0.389
Saudi Arabia	0.371	0.363	0.351	0.339	0.329	0.32
Senegal	0.399	0.398	0.388	0.378	0.365	0.349
Serbia	0.361	0.356	0.35	0.347	0.345	0.343
Sierra Leone	0.352	0.352	0.362	0.374	0.38	0.381
Singapore	0.383	0.381	0.379	0.377	0.374	0.372
Slovakia	0.249	0.252	0.252	0.25	0.249	0.248
Slovenia	0.249	0.247	0.243	0.239	0.238	0.237
Solomon Islands	0.378	0.384	0.378	0.366	0.356	0.349
Somalia	0.376	0.377	0.344	0.311	0.281	0.255
South Africa	0.629	0.629	0.625	0.621	0.617	0.613
Spain	0.344	0.338	0.329	0.322	0.316	0.312
Sri Lanka	0.39	0.402	0.391	0.376	0.364	0.351
Sudan	0.338	0.36	0.371	0.368	0.358	0.343
Suriname	0.576	0.581	0.574	0.565	0.554	0.544
Sweden	0.287	0.286	0.283	0.281	0.28	0.279
Switzerland	0.324	0.321	0.317	0.315	0.314	0.314
Syrian Arab Republic	0.378	0.391	0.394	0.396	0.4	0.402
Taiwan	0.263	0.258	0.252	0.243	0.234	0.227
Tajikistan	0.348	0.368	0.384	0.392	0.398	0.402
Tanzania	0.403	0.407	0.408	0.401	0.388	0.371

Table 18 (*continued*)

	2022	2030	2040	2050	2060	2070
Thailand	0.362	0.372	0.365	0.35	0.332	0.313
Timor-Leste	0.284	0.288	0.288	0.283	0.277	0.271
Togo	0.434	0.449	0.464	0.474	0.478	0.475
Trinidad and Tobago	0.397	0.378	0.353	0.337	0.324	0.313
Tunisia	0.325	0.328	0.331	0.336	0.325	0.312
Turkey	0.419	0.45	0.457	0.454	0.447	0.438
Turkmenistan	0.406	0.414	0.423	0.423	0.425	0.422
Uganda	0.428	0.442	0.435	0.418	0.4	0.377
Ukraine	0.236	0.243	0.241	0.236	0.235	0.236
United Arab Emirates	0.258	0.254	0.243	0.232	0.221	0.21
United Kingdom	0.351	0.349	0.344	0.34	0.337	0.335
United States of America	0.411	0.406	0.397	0.394	0.396	0.397
Uruguay	0.387	0.377	0.362	0.349	0.337	0.326
Uzbekistan	0.356	0.367	0.368	0.37	0.38	0.382
Venezuela, Bolivarian Republic	0.475	0.491	0.488	0.486	0.473	0.459
Viet Nam	0.354	0.355	0.347	0.335	0.322	0.307
Yemen	0.363	0.39	0.4	0.4	0.396	0.388
Zambia	0.57	0.568	0.563	0.553	0.54	0.531
Zimbabwe	0.425	0.422	0.423	0.418	0.408	0.393

Table 19
Millions of people living in poverty (under $1.90 per day at PPP in 2011$) for the IFs Current Path scenario in 2022, 2030, 2040, 2050, 2060, and 2070.

	2022	2030	2040	2050	2060	2070
Afghanistan	15.74	21.48	26.3	27.39	25.33	14.98
Albania	0.028	0.014	0.006	0.001	0	0
Algeria	0.155	0.279	0.137	0.02	0.004	0.001
Angola	18.31	20.49	23.48	25.78	21.96	15.09
Argentina	2.324	1.702	1.11	0.736	0.574	0.465
Armenia	0.027	0.018	0.009	0.005	0.003	0.001
Australia	0.087	0.048	0.017	0.007	0.003	0.002
Austria	0.033	0.014	0.006	0.002	0.001	0.001
Azerbaijan	0.004	0	0	0	0	0
Bahrain	0.0016	0.0002	0	0	0	0
Bangladesh	11.55	4.639	1.313	0.179	0.011	0
Belarus	0.008	0.002	0	0	0	0
Belgium	0.02	0.007	0.003	0.001	0	0
Benin	5.622	6.14	5.92	4.276	2.269	0.933
Bhutan	0.019	0.022	0.022	0.01	0.006	0.002
Bolivia	0.677	0.378	0.149	0.055	0.017	0.003
Bosnia and Herzegovina	0.006	0.012	0.003	0.002	0.001	0
Botswana	0.362	0.317	0.208	0.103	0.038	0.012
Brazil	8.925	6.773	3.838	2.098	1.357	1.005
Bulgaria	0.075	0.031	0.015	0.011	0.009	0.006
Burkina Faso	7.282	6.415	5.234	3.248	1.167	0.295
Burundi	9.999	11.78	13.03	14.8	13.07	2.526
Cabo Verde	0.026	0.018	0.016	0.017	0.015	0.008
Cambodia	3.883	2.391	1.207	0.45	0.116	0.021
Cameroon	6.365	6.601	6.98	6.586	4.602	2.566
Canada	0.091	0.069	0.056	0.035	0.022	0.013
Central African Republic	3.637	4.443	5.487	5.88	4.915	3.177
Chad	7.787	8.432	9.094	6.548	2.424	0.359
Chile	0.05	0.03	0.015	0.006	0.003	0.001
China	1.891	0.582	0.088	0.015	0.003	0
Colombia	2.071	2.453	2.429	1.92	1.338	0.926
Comoros	0.177	0.192	0.191	0.146	0.073	0.027
Congo	2.866	2.368	1.492	0.605	0.119	0.009
Congo, Dem. Republic of the	65.82	70.62	52.48	25.89	9.124	1.838
Costa Rica	0.044	0.024	0.011	0.004	0.001	0
Cote D'Ivoire	5.776	5.52	4.112	2.08	0.676	0.142
Croatia	0.013	0.003	0.001	0	0	0
Cuba	0.179	0.112	0.078	0.03	0.017	0.011
Cyprus	0.0011	0.0006	0.0004	0.0001	0	0
Czech Republic	0.016	0.006	0.002	0.001	0.001	0
Denmark	0.004	0.001	0	0	0	0
Djibouti	0.192	0.103	0.029	0.01	0.003	0.001
Dominican Republic	0.049	0.022	0.007	0.002	0.001	0
Ecuador	0.683	0.39	0.233	0.141	0.091	0.065
Egypt	3.264	4.702	4.408	2.639	1.555	1.07
El Salvador	0.112	0.071	0.034	0.015	0.006	0.002
Equatorial Guinea	0.049	0.056	0.037	0.024	0.013	0.005

(*continued on next page*)

Table 19 (*continued*)

	2022	2030	2040	2050	2060	2070
Eritrea	1.599	1.436	0.711	0.063	0.001	0
Estonia	0.003	0.001	0	0	0	0
Eswatini	0.319	0.252	0.186	0.118	0.057	0.026
Ethiopia	25.04	21.29	13.25	4.019	0.369	0.01
Fiji	0.004	0.002	0.001	0	0	0
Finland	0.005	0.003	0.002	0.001	0	0
France	0.081	0.038	0.022	0.011	0.005	0.002
Gabon	0.065	0.024	0.016	0.015	0.006	0.002
Gambia	0.227	0.184	0.128	0.053	0.015	0.003
Georgia	0.143	0.05	0.011	0.003	0.001	0
Germany	0.088	0.044	0.024	0.011	0.006	0.003
Ghana	3.538	2.797	2.048	0.916	0.24	0.053
Greece	0.076	0.045	0.021	0.006	0.003	0.001
Guatemala	1.285	1.214	0.971	0.653	0.417	0.272
Guinea	2.561	1.968	1.397	0.66	0.276	0.076
Guinea Bissau	1.348	1.502	1.678	1.741	1.491	0.996
Guyana	0.004	0	0	0	0	0
Haiti	3.484	3.506	3.595	3.259	2.501	1.584
Honduras	1.901	1.881	1.759	1.511	1.249	0.752
Hungary	0.039	0.012	0.006	0.002	0.001	0
India	126.7	91.02	50.76	13.08	2.233	0.356
Indonesia	8.838	5.171	2.843	1.482	0.723	0.262
Iran	0.382	0.351	0.209	0.136	0.093	0.041
Iraq	0.621	0.395	0.078	0.008	0.001	0
Ireland	0.001	0	0	0	0	0
Israel	0.017	0.024	0.014	0.005	0.002	0.001
Italy	0.869	0.485	0.244	0.113	0.06	0.032
Jamaica	0.066	0.063	0.051	0.032	0.017	0.007
Japan	0.827	0.503	0.301	0.125	0.062	0.02
Jordan	0.015	0.002	0.001	0.001	0	0
Kazakhstan	0.018	0.004	0.001	0	0	0
Kenya	16.68	13.44	8.846	3.719	0.897	0.194
Korea, Dem. People's Republic	7.857	6.61	7.995	2.863	2.097	0.839
Korea, Republic of	0.069	0.013	0.001	0	0	0
Kosovo	0.011	0.021	0.006	0.001	0	0
Kuwait	0.007	0.002	0.001	0.001	0.001	0
Kyrgyzstan	0.171	0.193	0.214	0.164	0.076	0.022
Lao People's Dem. Republic	0.56	0.265	0.057	0.006	0	0
Latvia	0.01	0.004	0.001	0	0	0
Lebanon	0.737	0.633	0.377	0.115	0.099	0.133
Lesotho	0.767	0.896	0.893	0.674	0.412	0.267
Liberia	2.591	2.966	2.175	1.083	0.16	0.01
Libya	0.007	0	0	0	0	0
Lithuania	0.013	0.006	0.002	0	0	0
Luxembourg	0.0014	0.0005	0.0002	0.0001	0	0
Macedonia, North	0.101	0.084	0.046	0.023	0.008	0.002
Madagascar	22.42	24.49	28.24	30.36	25.38	17.96
Malawi	13.85	13.53	10.78	6.126	1.266	0.163
Malaysia	0.042	0.02	0.009	0.003	0.001	0
Mali	10.23	10.95	11.95	9.726	4.824	1.981
Mauritania	0.346	0.374	0.317	0.211	0.103	0.04
Mauritius	0.005	0.005	0.003	0	0	0
Mexico	2.909	3.59	3.229	2.496	2.029	1.616
Moldova, Republic of	0.007	0.014	0.006	0.002	0.001	0
Mongolia	0.024	0.005	0	0	0	0
Montenegro	0.006	0.003	0.001	0	0	0
Morocco	0.253	0.147	0.091	0.052	0.024	0.01
Mozambique	21.5	24.2	22.71	15.3	8.374	4.249
Myanmar	0.873	0.579	0.529	0.539	0.455	0.202
Namibia	0.453	0.407	0.216	0.059	0.012	0.001
Nepal	1.449	1.405	0.699	0.205	0.027	0.003
Netherlands	0.02	0.007	0.003	0.001	0	0
New Zealand	0.003	0.001	0	0	0	0
Nicaragua	0.137	0.1	0.062	0.051	0.03	0.012
Niger	10.52	10.14	9.358	5.98	1.886	0.383
Nigeria	98.44	115.9	137.1	134.1	89.43	31.9
Norway	0.011	0.004	0.001	0	0	0
Oman	0.007	0.004	0.001	0.001	0.001	0
Pakistan	5.642	9.992	12.82	13.26	6.128	2.512
Panama	0.117	0.064	0.038	0.025	0.015	0.007
Papua New Guinea	2.187	1.139	0.772	0.692	0.316	0.172
Paraguay	0.067	0.04	0.021	0.013	0.009	0.005
Peru	1.149	0.609	0.32	0.211	0.134	0.074
Philippines	7.103	9.007	8.167	4.931	3.005	1.705
Poland	0.061	0.013	0.003	0	0	0

Table 19 (*continued*)

	2022	2030	2040	2050	2060	2070
Portugal	0.033	0.014	0.006	0.001	0	0
Qatar	0.003	0	0	0	0	0
Romania	0.408	0.223	0.117	0.057	0.034	0.017
Russian Federation	0.172	0.293	0.205	0.168	0.147	0.099
Rwanda	6.989	6.252	4.394	1.892	0.52	0.124
Saudi Arabia	0.03	0.006	0.002	0	0	0
Senegal	4.946	4.172	2.448	0.839	0.169	0.023
Serbia	0.297	0.13	0.062	0.029	0.013	0.006
Sierra Leone	3.817	3.789	3.793	3.277	1.419	0.309
Singapore	0.005	0.001	0	0	0	0
Slovakia	0.066	0.024	0.012	0.006	0.005	0.003
Slovenia	0.001	0.0001	0	0	0	0
Solomon Islands	0.213	0.157	0.132	0.131	0.071	0.013
Somalia	7.647	8.079	4.526	0.315	0.001	0
South Africa	11.96	12.16	11.86	11.54	11.12	10.38
Spain	0.301	0.118	0.042	0.017	0.008	0.004
Sri Lanka	0.147	0.105	0.037	0.009	0.002	0
Sudan	8.141	8.252	8.574	7.081	4.665	2.761
Suriname	0.128	0.083	0.05	0.037	0.026	0.016
Sweden	0.021	0.008	0.002	0.001	0	0
Switzerland	0.007	0.004	0.002	0.001	0	0
Syrian Arab Republic	6.632	12.32	16.39	17.75	17.12	15.8
Taiwan	0.006	0.001	0	0	0	0
Tajikistan	0.211	0.192	0.088	0.043	0.014	0.003
Tanzania	28.53	24.24	19.5	13.3	4.734	0.643
Thailand	0.09	0.028	0.01	0.003	0.001	0
Timor-Leste	0.165	0.064	0.009	0.001	0	0
Togo	3.882	3.807	3.281	1.984	0.744	0.199
Trinidad and Tobago	0.006	0.001	0	0	0	0
Tunisia	0.056	0.101	0.115	0.037	0.014	0.006
Turkey	0.099	0.126	0.081	0.039	0.014	0.005
Turkmenistan	0.035	0.005	0.002	0.001	0	0
Uganda	18.35	17.89	14.04	6.471	1.669	0.212
Ukraine	0.154	0.09	0.006	0.001	0.001	0.001
United Arab Emirates	0.013	0.004	0.001	0	0	0
United Kingdom	0.157	0.159	0.11	0.045	0.026	0.017
United States of America	2.965	2.488	1.872	1.086	0.606	0.458
Uruguay	0.004	0.001	0	0	0	0
Uzbekistan	3.563	2.688	1.853	1.039	0.526	0.255
Venezuela, Bolivarian Republic	15.7	19.25	15.95	14.28	11.68	8.166
Viet Nam	0.993	0.255	0.029	0.004	0	0
Yemen	18.54	18.59	18.42	15.76	11.2	5.53
Zambia	11.23	11.56	11.08	12.25	11.83	8.365
Zimbabwe	5.184	4.722	3.347	2.079	0.771	0.168

Table 20
Millions of people removed from poverty with the elimination of intrastate war from 2022 to 2070.

	2022	2030	2040	2050	2060	2070
Afghanistan	0.7	4.8	9.4	12.7	14.8	10.6
Albania	0.0	0.0	0.0	0.0	0.0	0.0
Algeria	0.0	0.1	0.1	0.0	0.0	0.0
Angola	0.2	1.4	3.1	4.5	3.5	1.3
Argentina	0.0	0.0	0.0	0.0	0.0	0.0
Armenia	0.0	0.0	0.0	0.0	0.0	0.0
Australia	0.0	0.0	0.0	0.0	0.0	0.0
Austria	0.0	0.0	0.0	0.0	0.0	0.0
Azerbaijan	0.0	0.0	0.0	0.0	0.0	0.0
Bahrain	0.0	0.0	0.0	0.0	0.0	0.0
Bangladesh	0.0	−0.1	−0.1	0.0	0.0	0.0
Belarus	0.0	0.0	0.0	0.0	0.0	0.0
Belgium	0.0	0.0	0.0	0.0	0.0	0.0
Benin	0.0	0.0	0.0	0.0	0.0	0.0
Bhutan	0.0	0.0	0.0	0.0	0.0	0.0
Bolivia	0.0	0.0	0.0	0.0	0.0	0.0
Bosnia and Herzegovina	0.0	0.0	0.0	0.0	0.0	0.0
Botswana	0.0	0.0	0.0	0.0	0.0	0.0
Brazil	0.0	0.0	0.0	0.0	0.0	0.0
Bulgaria	0.0	0.0	0.0	0.0	0.0	0.0
Burkina Faso	0.0	0.0	0.0	0.0	0.0	0.0
Burundi	0.1	0.4	1.0	1.5	3.0	1.0

(*continued on next page*)

Table 20 (*continued*)

	2022	2030	2040	2050	2060	2070
Cabo Verde	0.0	0.0	0.0	0.0	0.0	0.0
Cambodia	0.0	0.0	0.0	0.0	0.0	0.0
Cameroon	0.0	0.0	0.0	0.0	0.0	−0.1
Canada	0.0	0.0	0.0	0.0	0.0	0.0
Central African Republic	0.0	0.3	0.7	1.2	1.4	1.1
Chad	0.1	0.8	1.7	1.9	0.9	0.1
Chile	0.0	0.0	0.0	0.0	0.0	0.0
China	0.3	0.4	0.1	0.0	0.0	0.0
Colombia	0.4	1.7	2.0	1.7	1.2	0.9
Comoros	0.0	0.0	0.0	0.0	0.0	0.0
Congo	0.0	0.1	0.1	0.1	0.0	0.0
Congo, Dem. Republic of the	1.1	15.7	34.6	22.6	8.8	1.8
Costa Rica	0.0	0.0	0.0	0.0	0.0	0.0
Cote D'Ivoire	0.1	0.7	0.6	0.3	0.1	0.0
Croatia	0.0	0.0	0.0	0.0	0.0	0.0
Cuba	0.0	0.0	0.0	0.0	0.0	0.0
Cyprus	0.0	0.0	0.0	0.0	0.0	0.0
Czech Republic	0.0	0.0	0.0	0.0	0.0	0.0
Denmark	0.0	0.0	0.0	0.0	0.0	0.0
Djibouti	0.0	0.0	0.0	0.0	0.0	0.0
Dominican Republic	0.0	0.0	0.0	0.0	0.0	0.0
Ecuador	0.0	0.0	0.0	0.0	0.0	0.0
Egypt	0.3	1.8	2.4	1.6	0.9	0.6
El Salvador	0.0	0.0	0.0	0.0	0.0	0.0
Equatorial Guinea	0.0	0.0	0.0	0.0	0.0	0.0
Eritrea	0.0	0.0	0.0	0.0	0.0	0.0
Estonia	0.0	0.0	0.0	0.0	0.0	0.0
Eswatini	0.0	0.0	0.0	0.0	0.0	0.0
Ethiopia	1.3	6.9	8.2	3.3	0.3	0.0
Fiji	0.0	0.0	0.0	0.0	0.0	0.0
Finland	0.0	0.0	0.0	0.0	0.0	0.0
France	0.0	0.0	0.0	0.0	0.0	0.0
Gabon	0.0	0.0	0.0	0.0	0.0	0.0
Gambia	0.0	0.0	0.0	0.0	0.0	0.0
Georgia	0.0	0.0	0.0	0.0	0.0	0.0
Germany	0.0	0.0	0.0	0.0	0.0	0.0
Ghana	0.0	0.0	0.0	0.0	0.0	0.0
Greece	0.0	0.0	0.0	0.0	0.0	0.0
Guatemala	0.0	0.0	0.0	0.0	0.0	0.0
Guinea	0.0	0.0	0.0	0.0	0.0	0.0
Guinea Bissau	0.0	0.0	0.0	0.0	0.0	0.0
Guyana	0.0	0.0	0.0	0.0	0.0	0.0
Haiti	0.0	0.0	−0.1	0.0	0.0	−0.1
Honduras	0.0	0.0	−0.1	−0.1	−0.1	0.0
Hungary	0.0	0.0	0.0	0.0	0.0	0.0
India	15.8	61.3	44.9	12.0	2.0	0.3
Indonesia	0.6	2.0	1.5	0.9	0.5	0.2
Iran	0.0	0.0	0.0	0.0	0.0	0.0
Iraq	0.1	0.3	0.1	0.0	0.0	0.0
Ireland	0.0	0.0	0.0	0.0	0.0	0.0
Israel	0.0	0.0	0.0	0.0	0.0	0.0
Italy	0.0	0.0	0.0	0.0	0.0	0.0
Jamaica	0.0	0.0	0.0	0.0	0.0	0.0
Japan	0.0	0.0	0.0	0.0	0.0	0.0
Jordan	0.0	0.0	0.0	0.0	0.0	0.0
Kazakhstan	0.0	0.0	0.0	0.0	0.0	0.0
Kenya	0.0	0.0	0.0	0.0	0.0	0.0
Korea, Dem. People's Republic	0.0	0.0	0.1	0.2	0.1	0.1
Korea, Republic of	0.0	0.0	0.0	0.0	0.0	0.0
Kosovo	0.0	0.0	0.0	0.0	0.0	0.0
Kuwait	0.0	0.0	0.0	0.0	0.0	0.0
Kyrgyzstan	0.0	0.0	0.0	0.0	0.0	0.0
Lao People's Dem. Republic	0.0	0.0	0.0	0.0	0.0	0.0
Latvia	0.0	0.0	0.0	0.0	0.0	0.0
Lebanon	0.0	0.0	0.0	0.0	0.0	0.0
Lesotho	0.0	0.0	0.0	0.0	0.0	0.0
Liberia	0.0	0.0	0.0	0.0	0.0	0.0
Libya	0.0	0.0	0.0	0.0	0.0	0.0
Lithuania	0.0	0.0	0.0	0.0	0.0	0.0
Luxembourg	0.0	0.0	0.0	0.0	0.0	0.0
Macedonia, North	0.0	0.0	0.0	0.0	0.0	0.0
Madagascar	0.1	0.1	0.1	0.4	0.5	−0.3
Malawi	0.0	0.0	0.2	0.1	0.0	0.0
Malaysia	0.0	0.0	0.0	0.0	0.0	0.0
Mali	0.2	0.9	1.9	1.7	0.6	0.2

Table 20 (*continued*)

	2022	2030	2040	2050	2060	2070
Mauritania	0.0	0.0	0.0	0.0	0.0	0.0
Mauritius	0.0	0.0	0.0	0.0	0.0	0.0
Mexico	0.4	1.9	2.1	1.7	1.4	1.2
Moldova, Republic of	0.0	0.0	0.0	0.0	0.0	0.0
Mongolia	0.0	0.0	0.0	0.0	0.0	0.0
Montenegro	0.0	0.0	0.0	0.0	0.0	0.0
Morocco	0.0	0.0	0.0	0.0	0.0	0.0
Mozambique	0.0	0.1	0.1	0.7	0.4	0.2
Myanmar	0.2	0.4	0.5	0.5	0.4	0.2
Namibia	0.0	0.0	0.0	0.0	0.0	0.0
Nepal	0.1	0.5	0.3	0.1	0.0	0.0
Netherlands	0.0	0.0	0.0	0.0	0.0	0.0
New Zealand	0.0	0.0	0.0	0.0	0.0	0.0
Nicaragua	0.0	0.0	0.0	0.0	0.0	0.0
Niger	0.0	0.2	0.3	0.2	0.1	0.0
Nigeria	3.1	19.1	43.8	61.4	54.4	22.4
Norway	0.0	0.0	0.0	0.0	0.0	0.0
Oman	0.0	0.0	0.0	0.0	0.0	0.0
Pakistan	0.7	4.8	8.3	10.1	5.2	2.1
Panama	0.0	0.0	0.0	0.0	0.0	0.0
Papua New Guinea	0.0	0.0	0.0	0.0	0.0	0.0
Paraguay	0.0	0.0	0.0	0.0	0.0	0.0
Peru	0.0	0.0	0.0	0.0	0.0	0.0
Philippines	1.1	5.5	6.5	4.2	2.6	1.5
Poland	0.0	0.0	0.0	0.0	0.0	0.0
Portugal	0.0	0.0	0.0	0.0	0.0	0.0
Qatar	0.0	0.0	0.0	0.0	0.0	0.0
Romania	0.0	0.0	0.0	0.0	0.0	0.0
Russian Federation	0.0	0.3	0.2	0.2	0.1	0.1
Rwanda	0.1	0.2	0.3	0.2	0.0	0.0
Saudi Arabia	0.0	0.0	0.0	0.0	0.0	0.0
Senegal	0.0	0.2	0.1	0.0	0.0	0.0
Serbia	0.0	0.0	0.0	0.0	0.0	0.0
Sierra Leone	0.0	0.1	0.1	0.2	0.0	0.0
Singapore	0.0	0.0	0.0	0.0	0.0	0.0
Slovakia	0.0	0.0	0.0	0.0	0.0	0.0
Slovenia	0.0	0.0	0.0	0.0	0.0	0.0
Solomon Islands	0.0	0.0	0.0	0.0	0.0	0.0
Somalia	0.4	3.7	4.1	0.3	0.0	0.0
South Africa	0.0	0.0	−0.1	0.0	0.0	−0.1
Spain	0.0	0.0	0.0	0.0	0.0	0.0
Sri Lanka	0.0	0.1	0.0	0.0	0.0	0.0
Sudan	0.8	4.4	6.5	6.2	4.4	2.7
Suriname	0.0	0.0	0.0	0.0	0.0	0.0
Sweden	0.0	0.0	0.0	0.0	0.0	0.0
Switzerland	0.0	0.0	0.0	0.0	0.0	0.0
Syrian Arab Republic	0.1	0.7	0.8	1.5	2.3	2.7
Taiwan	0.0	0.0	0.0	0.0	0.0	0.0
Tajikistan	0.0	0.0	0.0	0.0	0.0	0.0
Tanzania	0.1	0.0	0.1	0.3	0.2	0.0
Thailand	0.0	0.0	0.0	0.0	0.0	0.0
Timor-Leste	0.0	0.0	0.0	0.0	0.0	0.0
Togo	0.0	0.0	−0.1	0.0	0.0	0.0
Trinidad and Tobago	0.0	0.0	0.0	0.0	0.0	0.0
Tunisia	0.0	0.0	0.0	0.0	0.0	0.0
Turkey	0.0	0.1	0.1	0.0	0.0	0.0
Turkmenistan	0.0	0.0	0.0	0.0	0.0	0.0
Uganda	0.5	3.3	5.2	3.3	0.9	0.1
Ukraine	0.0	0.0	0.0	0.0	0.0	0.0
United Arab Emirates	0.0	0.0	0.0	0.0	0.0	0.0
United Kingdom	0.0	0.0	0.0	0.0	0.0	0.0
United States of America	0.0	0.0	0.0	0.0	0.0	0.0
Uruguay	0.0	0.0	0.0	0.0	0.0	0.0
Uzbekistan	0.0	0.0	−0.1	−0.1	0.0	0.0
Venezuela, Bolivarian Republic	0.1	0.3	0.3	0.4	0.4	0.6
Viet Nam	0.0	0.0	0.0	0.0	0.0	0.0
Yemen	0.5	3.0	5.5	6.8	6.0	3.4
Zambia	0.0	0.0	0.1	0.2	−0.1	−0.6
Zimbabwe	0.0	0.0	−0.1	0.0	0.0	0.0

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.worlddev.2023.106188.

References

Adam, R. (1995). Input-output economics and computable general equilibrium models. *Structural Change and Economic Dynamics, 6*(3), 295–304. https://doi.org/10.1016/0954-349X(95)00018-I.

African Union. (2015). *Agenda 2063: The Africa we want.* (p. 24). African Union. https://au.int/sites/default/files/documents/36204-doc-agenda2063_popular_version_en.pdf.

Akresh, R., Verwimp, P., & Bundervoet, T. (2011). Civil War, Crop Failure, and Child Stunting in Rwanda. *Economic Development and Cultural Change, 59*(4), 777–810. https://doi.org/10.1086/660003.

Allen, R. (2020). *Poverty lines in history, theory, and current international practice*. https://ora.ox.ac.uk/objects/uuid:3c9df348-d545-43dc-87f2-ae53c840f1d2.

Azzarri, C., & Signorelli, S. (2020). Climate and poverty in Africa South of the Sahara. *World Development, 125*. https://doi.org/10.1016/j.worlddev.2019.104691 104691.

Bahgat, K., Barrett, G., Dupuy, K., Gates, S., Hillesund, S., Nygard, H. M., Rustad, S. A., Strand, H., Urdal, H., & Ostby, G. (2017). *Inequality and Armed Conflict: Evidence and Data* [Background Report]. Peace Research Institute Oslo.

Baillie, E., Howe, P. D. L., Perfors, A., Miller, T., Kashima, Y., & Beger, A. (2021). Explainable models for forecasting the emergence of political instability. *PLoS One1, 16*(7), e0254350.

Bargain, O., & Aminjonov, U. (2021). Poverty and COVID-19 in Africa and Latin America. *World Development, 142*. https://doi.org/10.1016/j.worlddev.2021.105422 105422.

Bircan, Ç., Brück, T., & Vothknecht, M. (2017). Violent conflict and inequality. *Oxford Development Studies, 45*(2), 125–144. https://doi.org/10.1080/13600818.2016.1213227.

Bourguignon, F. (2004). *The Poverty-Growth-Inequality Triangle* [Working Paper]. *Indian Council for Research on International Economic Relations (ICRIER)*.

Bove, V., Elia, L., & Smith, R. P. (2016). On the heterogeneous consequences of civil war. *Oxford Economic Papers, gpw050*. https://doi.org/10.1093/oep/gpw050.

Bowlsby, D., Chenoweth, E., Hendrix, C., & Moyer, J. D. (2019). The Future is a Moving Target: Predicting Political Instability. *British Journal of Political Science, 50*(4), 1405–1417. https://doi.org/10.1017/S0007123418000443.

Buhaug, H., & Vestby, J. (2019). On Growth Projections in the Shared Socioeconomic Pathways. *Global Environmental Politics, 19*(4), 118–132. https://doi.org/10.1162/glep_a_00525.

Burgess, M., Langendorf, R., Moyer, J., Dancer, A., Hughes, B., & Tilman, D. (2022). *Long-standing historical dynamics suggest a slow-growth, high-inequality economic future*. 10.31235/osf.io/q4uc6.

Caldés, N., Coady, D., & Maluccio, J. A. (2006). The cost of poverty alleviation transfer programs: A comparative analysis of three programs in Latin America. *World Development, 34*(5), 818–837. https://doi.org/10.1016/j.worlddev.2005.10.003.

Cederman, L.-E., Weidmann, N. B., & Gleditsch, K. S. (2011a). Horizontal Inequalities and Ethnonationalist Civil War: A Global Comparison. *American Political Science Review, 105*(3), 478–495. https://doi.org/10.1017/S0003055411000207.

Cederman, L.-E., Weidmann, N. B., & Gleditsch, K. S. (2011b). Horizontal Inequalities and Ethnonationalist Civil War: A Global Comparison. *American Political Science Review, 105*(03), 478–495. https://doi.org/10.1017/S0003055411000207.

Cobb, C. W., & Douglas, P. H. (1928). *A Theory of Production* (pp. 139–165). JSTOR. internal-pdf://cobbdouglas-3769419526/cobbdouglas.pdf.

Collier, P. (1999). On the economic consequences of civil war. *Oxford Economic Papers, 51*(1), 168–183. https://doi.org/10.1093/oep/51.1.168.

Costalli, S., Moretti, L., & Pischedda, C. (2017). The economic costs of civil war: Synthetic counterfactual evidence and the effects of ethnic fractionalization. *Journal of Peace Research, 54*(1), 80–98. https://doi.org/10.1177/0022343316675200.

de Groot, O. J., Bozzoli, C., Alamir, A., & Brück, T. (2022). The global economic burden of violent conflict. *Journal of Peace Research, 59*(2), 259–276. https://doi.org/10.1177/00223433211046823.

Dellink, R., Chateau, J., Lanzi, E., & Magné, B. (2017). Long-term economic growth projections in the Shared Socioeconomic Pathways. *Global Environmental Change, 42*, 200–214. https://doi.org/10.1016/j.gloenvcha.2015.06.004.

Fearon, J. D., & Laitin, D. D. (2003). Ethnicity, Insurgency, and Civil War. *American Political Science Review, 97*(1), 75–90. https://doi.org/10.1017/S0003055403000534.

Forsberg, E. (2014). Transnational Transmitters: Ethnic Kinship Ties and Conflict Contagion 1946–2009. *International Interactions, 40*(2), 143–165.

Gastwirth, J. L. (1972). The Estimation of the Lorenz Curve and Gini Index. *The Review of Economics and Statistics, 54*(3), 306–316. https://doi.org/10.2307/1937992.

Gates, S., Hegre, H., Nygård, H. M., & Strand, H. (2012). Development Consequences of Armed Conflict. *World Development, 40*(9), 1713–1722. https://doi.org/10.1016/j.worlddev.2012.04.031.

Ghobarah, H. A., Huth, P., & Russett, B. (2003). Civil Wars Kill and Maim People-Long after the Shooting Stops. *The American Political Science Review, 97*(2), 189–202.

Ghobarah, H. A., Huth, P., & Russett, B. (2004). The post-war public health effects of civil conflict. *Social Science & Medicine, 59*(4), 869–884. https://doi.org/10.1016/j.socscimed.2003.11.043.

Gleditsch, N. P., Wallensteen, P., Eriksson, M., Sollenberg, M., & Strand, H. (2002). Armed Conflict 1946–2001: A New Dataset. *Journal of Peace Research, 39*(5), 615–637. https://doi.org/10.1177/0022343302039005007.

Global Trade Analysis Project. (2018). *GTAP 9 Database*. https://www.gtap.agecon.purdue.edu/databases/v9/default.asp.

Goldstone, J. A., Bates, R. H., Epstein, D. L., Gurr, T. R., Lustik, M. B., Marshall, M. G., ... Woodward, M. (2010). A Global Model for Forecasting Political Instability. *American Journal of Political Science, 54*(1), 190–208.

Guerrero Serdan, G. (2009). *The Effects of the War in Iraq on Nutrition and Health: An Analysis Using Anthropometric Outcomes of Children* (SSRN Scholarly Paper ID 1359161). *Social Science Research Network*. https://doi.org/10.2139/ssrn.1359161.

Gurr, T. R. (2000). *People Versus States: Minorities at Risk in the New Century*. United States Institute of Peace Press.

Hanna, T., Bohl, D. K., & Moyer, J. D. (2021). *Assessing the Impact of War in Yemen: Pathways for Recovery* (p. 67). United Nations Development Programme. file:///C:/Users/jonathan.moyer/Downloads/UNDP-Yemen_ImpactofWar_WEB.pdf.

Hegre, H., Buhaug, H., Calvin, K. V., Nordkvelle, J., Waldhoff, S. T., & Gilmore, E. (2016). Forecasting civil conflict along the shared socioeconomic pathways. *Environmental Research Letters, 11*(5). https://doi.org/10.1088/1748-9326/11/5/054002 054002.

Hegre, H., Nygård, H. M., & Landsverk, P. (2021). Can We Predict Armed Conflict? How the First 9 Years of Published Forecasts Stand Up to Reality. *International Studies Quarterly*, 1–9.

Hickel, J. (2019). The contradiction of the sustainable development goals: Growth versus ecology on a finite planet. *Sustainable Development, 27*(5), 873–884. https://doi.org/10.1002/sd.1947.

Hickel, J., & Kallis, G. (2020). Is Green Growth Possible? *New Political Economy, 25*(4), 469–486. https://doi.org/10.1080/13563467.2019.1598964.

Hughes, B. B. (2019). *International Futures: Building and Using Global Models (1 edition)*. Academic Press.

Hughes, B. B., Dickson, J. R., Solorzano, J. R., Kuhn, R., & Peterson, C. (2011). *Improving Global Health: Forecasting the Next 50 Years*. Paradigm Publishers.

Hughes, B. B., Irfan, M. T., Khan, H., Kumar, K. B., Rothman, D. S., & Solorzano, J. R. (2009). *PPHP 1: Reducing global poverty* (Vol. 1). Pardee Center for International Futures, University of Denver ; Paradigm Publishers ; Oxford University Press India.

Hughes, B. B., Irfan, M. T., Solórzano, J., Yang, V., & Moyer, J. D. (2021). Estimating current values of sustainable development goal indicators using an integrated assessment modeling platform: "Nowcasting" with International Futures. *Statistical Journal of the IAOS, 37*(1), 293–307. https://doi.org/10.3233/SJI-200715.

Hughes, B. B., Joshi, D. K., Moyer, J. D., Sisk, T. D., & Solorzano, J. R. (2014). *PPHP 5: Strengthening Governance Globally: Forecasting the next 50 years* (Vol. 5). Pardee Center for International Futures, University of Denver; Paradigm; Oxford University Press. https://korbel.du.edu/sites/default/files/2021-12/PPHP5%20Full%20Volume.pdf.

Hughes, B. B., & Narayan, K. (2021). Enhancing integrated analysis of national and global goal pursuit by endogenizing economic productivity. *PLoS One1, 16*(2), e0246797.

Hughes, B., Kuhn, R., Peterson, C., Rothman, D., Solórzano, J., Mathers, C., & Dickson, J. (2011). Projections of global health outcomes from 2005 to 2060 using the International Futures integrated forecasting model. *Bulletin of the World Health Organization, 89*, 478–486. https://doi.org/10.2471/BLT.10.083766.

Jiang, L., & O'Neill, B. C. (2017). Global urbanization projections for the Shared Socioeconomic Pathways—ScienceDirect. *Global Environmental Change, 42*, 193–199.

Joshi, D. K., Hughes, B. B., & Sisk, T. D. (2015). Improving Governance for the Post-2015 Sustainable Development Goals: Scenario Forecasting the Next 50years. *World Development, 70*(C), 286–302.

Justino, P. (2012). War and Poverty. *Oxford University Press*. https://doi.org/10.1093/oxfordhb/9780195392777.013.0027.

Kc, S., & Lutz, W. (2017). The human core of the shared socioeconomic pathways: Population scenarios by age, sex and level of education for all countries to 2100. *Global Environmental Change, 42*, 181–192. https://doi.org/10.1016/j.gloenvcha.2014.06.004.

Keuning, S. J., & de Ruuter, W. A. (1988). Guidelines to the Construction of a Social Accounting Matrix. *Review of Income and Wealth, 34*(1), 71–100. https://doi.org/10.1111/j.1475-4991.1988.tb00561.x.

Kharas, H. (2020, October 21). The impact of COVID-19 on global extreme poverty. *Brookings*. https://www.brookings.edu/blog/future-development/2020/10/21/the-impact-of-covid-19-on-global-extreme-poverty/.

Lakner, C., Yonzan, N., Gerszon Mahler, D., Aguilar, R., & Wu, H. (2021, January 11). *Updated estimates of the impact of COVID-19 on global poverty: Looking back at 2020 and the outlook for 2021*. https://blogs.worldbank.org/opendata/updated-estimates-impact-covid-19-global-poverty-looking-back-2020-and-outlook-2021.

Larsen, A. F., & Lilleør, H. B. (2014). Beyond the Field: The Impact of Farmer Field Schools on Food Security and Poverty Alleviation. *World Development, 64*, 843–859. https://doi.org/10.1016/j.worlddev.2014.07.003.

Loayza, N. V., & Raddatz, C. (2010). The composition of growth matters for poverty alleviation. *Journal of Development Economics, 93*(1), 137–151. https://doi.org/10.1016/j.jdeveco.2009.03.008.

Meinzen-Dick, R., Quisumbing, A., Doss, C., & Theis, S. (2019). Women's land rights as a pathway to poverty reduction: Framework and review of available evidence. *Agricultural Systems, 172*, 72–82. https://doi.org/10.1016/j.agsy.2017.10.009.

Moatsos, M., & Lazopoulos, A. (2021). Purchasing power parities and the Dollar-A-Day approach: An unstable relationship. *Economics Letters, 206*. https://doi.org/10.1016/j.econlet.2021.109974 109974.

Moyer, J. D., Bohl, D. K., Hanna, T., Mapes, B. R., & Rafa, M. (2019). Assessing the impact of war on development in Yemen. *United Nation's Development Programme*. https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwin-diK_PTqAhWDG80KHfY_DdIQFjAAegQIAhAB&url=https%3A%2F%2Fwww.undp.org%2Fcontent%2Fdam%2Fyemen%2FGeneral%2FDocs%2FUNDP-YEM%2520War%2520Impact%2520on%2520SDGs_compressed.pdf&usg=AOvVaw3hruUiqJQPRh1tK0wGKX8I.

Moyer, J. D., Bohl, D. K., Petry, C., Scott, A., Solórzano, J. R., & Kuhn, R. (2020). The persistent global burden of severe acute malnutrition: Cross-country estimates, models and forecasts. *Global Transitions, 2*, 167–179. https://doi.org/10.1016/j.glt.2020.07.004.

Moyer, J. D., Hanna, T., Bohl, D. K., & Mapes, B. R. (2019). Assessing the impact of conflict in yemen on achieving the sustainable development goals. *United Nation's Development Programme*. https://reliefweb.int/sites/reliefweb.int/files/resources/UNDP-YEM%20War%20Impact%20on%20SDGs_compressed.pdf.

Moyer, J. D., & Hedden, S. (2020). Are we on the right path to achieve the sustainable development goals? *World Development, 127*. https://doi.org/10.1016/j.worlddev.2019.104749 104749.

Moyer, J. D., & Kaplan, O. (2020). Will the Coronavirus Pandemic Fuel Conflict in Fragile States? *Foreign Policy* https://foreignpolicy.com/2020/07/06/coronavirus-pandemic-fuel-conflict-fragile-states-economy-food-prices/.

Moyer, J. D., Mapes, B. R., Yang, V., Fitzgerald, H., McNeil, K., Bohl, D. K., ... Hughes, B. B. (2022). Projections of the impact of COVID-19 on long-term human poverty. *PlosONE.*.

Moyer, J. D., Mathews, A., Rafa, M., & Xiong, Y. (2022). Identifying patterns in the structural drivers of intrastate conflict. *British Journal of Political Science*.

Ngoma, C., & Mayimbo, S. (2017). The Negative Impact of Poverty on the Health of Women and Children. *Annals of Medical and Health Sciences Research, 7*(6), 442–446.

O'Neill, B. C., Kriegler, E., Ebi, K. L., Kemp-Benedict, E., Riahi, K., Rothman, D. S., ... Solecki, W. (2017). The roads ahead: Narratives for shared socioeconomic pathways describing world futures in the 21st century. *Global Environmental Change, 42*, 169–180. https://doi.org/10.1016/j.gloenvcha.2015.01.004.

O'Neill, B. C., Kriegler, E., Riahi, K., Ebi, K. L., Hallegatte, S., Carter, T. R., ... van Vuuren, D. P. (2014). A new scenario framework for climate change research: The concept of shared socioeconomic pathways. *Climatic Change, 122*(3), 387–400. https://doi.org/10.1007/s10584-013-0905-2.

Pogge, T., & Reddy, S. G. (2005). *How Not to Count the Poor* (SSRN Scholarly Paper No. 893159). Social Science Research Network. 10.2139/ssrn.893159.

Raleigh, C., Linke, A., Hegre, H., & Karlsen, J. (2010). Introducing ACLED: An Armed Conflict Location and Event Dataset: Special Data Feature. *Journal of Peace Research, 47*(5), 651–660. https://doi.org/10.1177/0022343310378914.

Rao, N. D., Sauer, P., Gidden, M., & Riahi, K. (2019). Income inequality projections for the Shared Socioeconomic Pathways (SSPs). *Futures, 105*, 27–39. https://doi.org/10.1016/j.futures.2018.07.001.

Ravallion, M. (2008). *How Not to Count the Poor? A Reply to Reddy and Pogge*.

Ravallion, M. (2013). How Long Will It Take to Lift One Billion People Out of Poverty? *The World Bank Research Observer, 28*(2), 139–158. https://doi.org/10.1093/wbro/lkt003.

Rothman, D. S., Irfan, M. T., Margolese-Malin, E., Hughes, B. B., & Moyer, J. D. (2014). *PPHP 4: Building Global Infrastructure: Forecasting the next 50 years* (Vol. 4). Pardee Center for International Futures, University of Denver; Paradigm; Oxford University Press. https://korbel.du.edu/sites/default/files/2021-12/PPHP4%20Full%20Volume.pdf.

Rüegger, S. (2019). Refugees, Ethnic Power Relations, and Civil Conflict in the Country of Asylum. *Journal of Peace Research, 56*(1), 42–57.

Schmelzer, M. (2022). *The future is degrowth: A guide to a world beyond capitalism*. Verso.

Schrodt, P. A., & Ulfelder, J. (2016). Political Instability Task Force atrocities event data collection codebook. *Political Instability Task Force.* http://eventdata.parusanalytics.com/data.dir/PITF_Atrocities.codebook.1.1B1.pdf.

Sellers, S. (2020). Cause of death variation under the shared socioeconomic pathways. *Climatic Change, 163*(1), 559–577. https://doi.org/10.1007/s10584-020-02824-0.

Shorrocks, A., & Wan, G. (2008). *Ungrouping income distributions: Synthesising samples for inequality and poverty analysis* (Research Paper No. 2008/16). UNU-WIDER. http://www.wider.unu.edu/publications/working-papers/research-papers/2008/en_GB/rp2008-16/_files/78941482225631708/default/rp2008-16.pdf.

Solow, R. M. (1956). A Contribution to the Theory of Economic Growth. *The Quarterly Journal of Economics, 70*(1), 65–94. https://doi.org/10.2307/1884513.

Stewart, F. (2005). Horizontal Inequalities: A Neglected Dimension of Development. In A. B. Atkinson, K. Basu, D. C. North, D. Rodrik, F. Stewart, J. E. Stiglitz, ... & J. G. Williamson (Eds.), *Wider Perspectives on Global Development* (pp. 101–135). Palgrave Macmillan UK. https://doi.org/10.1057/9780230501850_5.

Swee, E. L. (2015). On war intensity and schooling attainment: The case of Bosnia and Herzegovina. *European Journal of Political Economy, 40*, 158–172. https://doi.org/10.1016/j.ejpoleco.2015.08.001.

Tollefsen, A. F., Strand, H., & Buhaug, H. (2012). PRIO-GRID: A unified spatial data structure. *Journal of Peace Research, 49*(2), 363–374. https://doi.org/10.1177/0022343311431287.

UN DESA. (2020). *The Sustainable Development Goals Report 2020* (p. 68). United Nations Department of Economic and Social Affairs. https://unstats.un.org/sdgs/report/2020/The-Sustainable-Development-Goals-Report-2020.pdf.

UNPD. (2019). *World population prospects Volume 1, 2019 revision*. United Nations Department of Economic and Social Affairs Population Division.

van Vuuren, D. P., Edmonds, J., Kainuma, M., Riahi, K., Thomson, A., Hibbard, K., ... Rose, S. K. (2011). The representative concentration pathways: An overview. *Climatic Change, 109*(1), 5. https://doi.org/10.1007/s10584-011-0148-z.

World Bank (2021). May 4). *PovcalNet* [Text/HTML]. *PovCalNet.* http://iresearch.worldbank.org/PovcalNet/povOnDemand.aspx.