# Estimating future conflict risks and conflict prevention implications by 2030

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The world is entering an unstable and dangerous new phase. The COVID-19 pandemic is not only overwhelming health systems, it is giving rise to severe economic hardship and accelerating geopolitical tensions. The longer COVID-19 endures, the more significant the potential for social disorder, political violence and outright conflict. While the risks are significant and continuing to grow, armed conflict is not a guaranteed outcome. There are opportunities to prevent and reduce armed conflict through a package of interventions ranging from early diplomacy and peace agreements to the deployment of peacekeepers and smart targeted investment in policing and justice reform. But this requires investing early and intelligently.

Notwithstanding the core mandate of the United Nations to promote peace and security for future generations, many member states are still sceptical about the dividends of conflict prevention. Their diplomats argue that it is hard to justify investments without being able to show its tangible returns to decision-makers and taxpayers. As a result, support for conflict prevention is halting and uneven, and governments and international agencies end up spending enormous sums in stability and peace support operations after the fact.

In this article we consider the trajectories of armed conflict in a 'business-as-usual' scenario between 2020-2030. This is of direct relevance to the future of peacekeeping which is, by definition, influenced by the shape and character of organized political violence. We draw on a comprehensive historical dataset to estimate the number of countries that might experience rising levels of collective violence, outright armed conflict and their associated economic costs. We then simulate alternative outcomes if conflict prevention measures were 25%, 50% and 75% more effective over time. As with all projections, their quality relies at least in part on the integrity of the underlying data. While we stand by the results, we advocate a cautious interpretation of the findings.

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If current trends persist and no additional conflict prevention action is taken above the current baseline, then it is expected that there will be three more countries at war and nine more countries at high risk of war by 2030 as compared to 2020. This translates into roughly 677,250 conflict-related fatalities (civilian and battle-deaths) between the present and 2030. By contrast, under our most pessimistic scenario, a 25% increase in effectiveness of conflict prevention would result in 10 more countries at peace by 2030, 109,000 fewer fatalities over the next decade and savings of over $3.1 trillion. A 50% improvement would result in 17 additional countries at peace by 2030, 205,000 fewer deaths by 2030 and some $6.6 trillion in savings. Meanwhile, under our most optimistic scenario, a 75% improvement in prevention would result in 23 more countries at peace by 2030, resulting in 291,000 lives saved over the next decade and $9.8 trillion in savings.

These scenarios are approximations, yet demonstrate concrete and defensible estimates of both the benefits (saved lives, displacement avoided, declining peacekeeping deployments) and cost-effectiveness of prevention (recovery aid, peacekeeping expenditures). Wars are costly and the avoidance of "conflict traps" could save the economy trillions of dollars stronger by 2030 under the most optimistic scenarios. The bottom line is that comparatively modest investments in prevention can yield lasting effects by avoiding compounding costs of lost life, peacekeeping and aid used for humanitarian response and rebuilding rather than development. The longer conflict prevention is delayed, the more expensive responses to conflict become.

**Estimating future conflict prevention**

In order to estimate the dividends of conflict prevention we analyze violence dynamics in over 190 countries over the period 1994 to 2017, a time period for which most data was available for most countries. Drawing on 12 risk variables the model examines the likelihood that a war will occur in a country in the following year and we estimate (through linear, fixed effects regressions) the average cost of war (and other 'states', described below) on 8 dependent variables, including loss of life, displacement, peacekeeping deployments and expenditures, oversea aid and economic growth. The estimates confirm that, by far, the most costly state for a country to be in is war, and the probability of a country succumbing to war in the next year is based on its current state and the frequency of other countries with similar states having entered war in the past.

At the core of the model (and results) is the reality that countries tend to get stuck in so-called violence and conflict traps. A well established finding on the conflict studies field is that once a country experiences an armed conflict, it is very likely to relapse into conflict or violence within a few years. Furthermore, countries likely to experience war share some common warning signs, which we refer to as "flags" (up to 12 flags can be raised to signal risk). Not all countries that enter armed conflict raise the same warning flags, but the warning flags are nevertheless a good indication that a country is at high risk. These effects create vicious cycles that result in high risk, war and frequent relapse into conflict. Multiple forms of prevention are necessary to break these cycles.

The model captures the vicious cycle of conflict traps, through introducing five states and a transition matrix based on historical data (see Table 1). First, we assume that a country is in one

of five 'states' in any given year. These ‘states’ are at "Peace", "High Risk", "Negative Peace", "War" and "Recovery" (each state is described further below). Drawing on historical data, the model assesses the probability of a country transitioning to another state in a given year (a transition matrix). Table 1 is read from the top of the table down, by column. For example, if a state was at High Risk in the last year, it has a 19.3% chance of transitioning to Peace, a 71.4% chance of staying High Risk, a 7.6% chance of entering Negative Peace and a 1.7% chance of entering War the following year.

**Table 1. Transition Matrix of States (based on historical data, 1994 - 2017)**

| | From: | State Last Period | | | | |
|---|---|---|---|---|---|---|
| To: | | Peace | High Risk | Negative Peace | War | Recovery |
| State This Period | Peace | 91.4% | 19.3% | 4.1% | 0.0% | 5.5% |
| | High Risk | 7.5% | 71.4% | 26.8% | 0.0% | 7.7% |
| | Negative Peace | 0.5% | 7.6% | 65.8% | 0.0% | 2.2% |
| | War | 0.5% | 1.7% | 3.3% | 72.6% | 10.2% |
| | Recovery | 0.0% | 0.0% | 0.0% | 27.4% | 74.3% |

Peace is the default state of the model. If any country is not in any of the other four categories, it is assumed to be "at peace". This is an imperfect designation: the state of peace does not imply that there is no organized and interpersonal violence or the risk of instability. Indeed, every country that slips into high risk, negative peace, war or recovery was once in a state of peace. But peace is nevertheless the most common or pervasive condition and used as the benchmark against all other states (regressions on dependent variables are relative to peace, see figure 1 for example). Fortunately, peace is highly (but not totally) persistent, 91.4% of countries that were at peace one period were in peace the next period.

By contrast, high risk states are designated by the raising of up to 12 flags. These include: 1) high scores by Amnesty International's annual human rights reports (source: Political Terror Scale), 2) the US state department annual reports (source: Political Terror Scale), 3) civilian fatalities as a percentage of population (source: ACLED), 4) political events per year (source: ACLED) 5) events attributed to the proliferation of non-state actors (source: ACLED), 6) battle deaths (source: UCDP), 7) deaths by terrorism (source: GTD), 8) high levels of crime (source: UNODC), 9) high levels of prison population (source: UNODC), 10) economic growth shocks (source: World Bank), 11) doubling of displacement in a year (source: IDMC), and 12) doubling of refugees in a year (source: UNHCR). Countries with two or more flags fall into the "high risk" category. Using these flags, a majority of countries have been at high risk for one or more years

from 1994 to 2017, so it is easier to give examples of countries that have not been at high risk.

Negative peace states are defined by combined scores from Amnesty International and the US State Department > 7. Countries that fell into this category over the historical period for 10 or more years were North Korea, Russia, Pakistan, Nigeria, Brazil, China, Myanmar, India, Bangladesh, Philippines, Egypt, Iran and Mexico. Negative peace supersedes high risk (a country can only be in one state), so countries that are both are coded as negative peace. Negative peace countries do not experience lethal violence per capita high enough to be considered at war, therefore this category is more likely to include larger countries. Negative peace is the least persistent of states, as only 65.8% of countries that experienced negative peace in one year experienced it the next. Countries in negative peace are more than five times as likely to enter high risk in the following year than peace (26.8 vs. 4.1%).

A country that is at war is one that falls into a higher threshold of collective violence, relative to the size of the population. Specifically, it is designated as such if one or more of the following conditions are met: above 0.04 battle deaths or .04 civilian fatalities per 100,000 according to UCDP and ACLED, respectively or coding of genocide by the Political Instability Task Force Worldwide Atrocities Dataset. Countries experiencing five or more years of war between 1994 and 2017 included Afghanistan, Somalia, Sudan, Iraq, Burundi, Central African Republic, Sri Lanka, DR Congo, Uganda, Chad, Colombia, Israel, Lebanon, Liberia, Yemen, Algeria, Angola, Sierra Leone, South Sudan, Eritrea and Libya.

Lastly, recovery is a period of stability that follows from war. A country is only determined to be recovering if it is not at war and was recently in a war. Any country that exits the war state is immediately coded as being in recovery for the following five years, unless it relapses into war. The duration of the recovery period (5 years) is informed by the work of Paul Collier et al, but is robust also to sensitivity tests around varying recovery lengths. The model does not allow for countries to be high risk and in recovery in the same year, but there is ample evidence that countries that are leaving a war state are at a substantially higher risk of experiencing war recurrence, contributing to the conflict trap described earlier. Countries are twice as likely to enter high risk or negative peace coming out of recovery as they are to enter peace and 10.2% of countries in recovery relapse into war every year. When a country has passed the five year threshold without reverting to war, it can move back to states of peace, negative peace or high risk.

The transition matrix underlines the very real risk of countries falling into a 'conflict trap'. Specifically, a country that is in a state of war has a very high likelihood of staying in this condition in the next year (72.6%) and just a 27.4% chance of transitioning to recovery. Once in recovery, a country has a 10.2% chance of relapse every year, suggesting only a 58% chance (1-10.2%)^5 that a country will not relapse over five years. As Collier and others have observed, countries are often caught in prolonged and vicious cycles of war and recovery (conflict traps), often unable to escape into a new more peaceful (or less war-like) state.

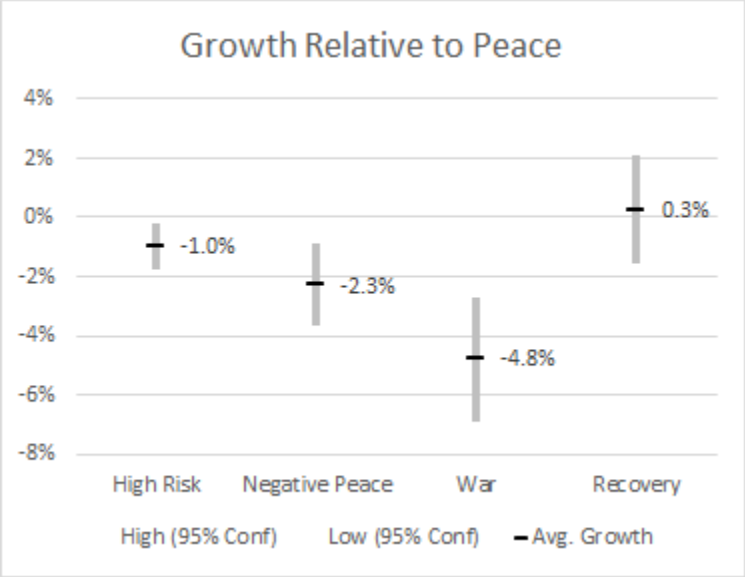
Obviously leaders and elites often deliberately choose war and peace - it is not a roll of the dice. There are complex and layered political, economic and social interests that shape the opportunity structure for pursuing armed conflict or not. The model presented here is intended to serve as a

heuristic and is essential for simulating the incidence of war and the risk of war for comparing scenarios, including investments in conflict prevention. Estimating the probability of future war allows us to model benefits of preventing them, including avoided deaths and growth gains as well as avoided peace-keeping costs and aid for humanitarian and reconstruction purposes. It should be added that the model included here can likewise be adjusted to account for the effects of COVID-19, notably the influence of a worsening economic climate on armed conflict onset and duration.

**Economic costs and conflict traps**

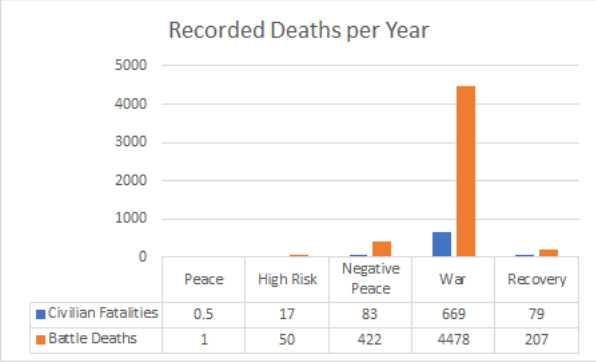
While war may not be stupid, it is expensive. Linear regressions on dependent variables (economic growth, deaths, displacement, peacekeeping and aid) provide estimates of just how costly war and other states can be. Economic growth regressions from 1989 to 2015 demonstrate that war-affected countries grow by 4.8 percent less per year (see Figure 1). This effect is robust when controlling for fixed effects and over time. In addition, countries in negative peace register economic growth 2.3% lower than those at peace. Countries at high risk of war have statistically significant growth 1% lower than those at peace, on average. States recovering from war do not have statistically significant growth greater than those at peace, though much of this is "catch up growth" owing to lost economic growth during conflict.

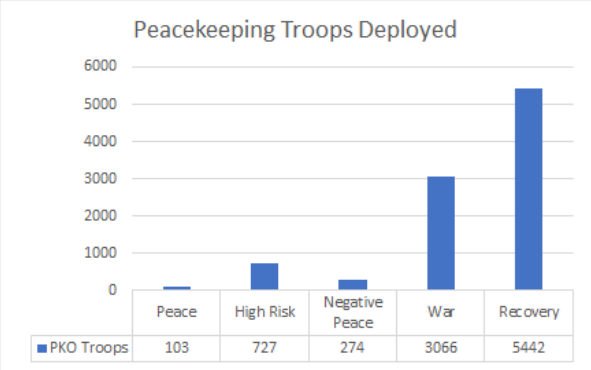
Figure 1. Economic growth relative to peace

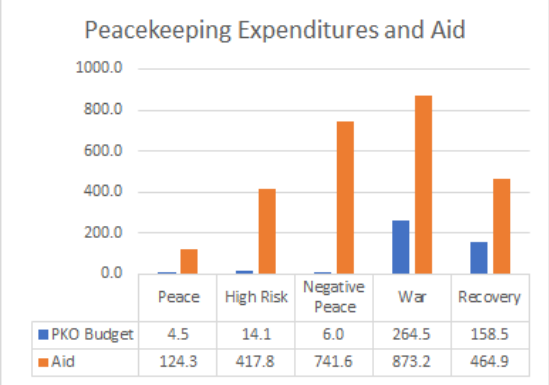



War has other costs beyond just economic growth. In figure 2 (a-d), for example, the average effects of war and other states (high risk, negative peace and recovery) are shown in bar graphs and with point estimates. They are displayed for annual deaths (recorded, civilian and battle, Panel 2a), annual refugees and displacement (2b), annual deployment of peacekeeping troops (2c) and annual expenditures on peacekeeping and aid (2d) for each state. Figures 2a-2d. Effects of states on loss of life, displacement and other costs

Figures 2a-2c. Effects in relation to conflict deaths and peacekeeping




Driven largely, but not solely, by costs associated with the Afghanistan and Iraq wars, overseas aid during and after war (recovery) is much higher than aid to countries at peace. The aid burden for countries at high risk and in negative peace is also very high. There is a strong positive association between aid and peacekeeping expenditures not just in the 'war' state but also in the 'recovery' period as well. Investments remain high, $465 million a year in the aftermath of war (see table under Panel 2d). This is a long-term cost of war since all countries affected by war necessarily pass through five years of recovery before exiting to other states.

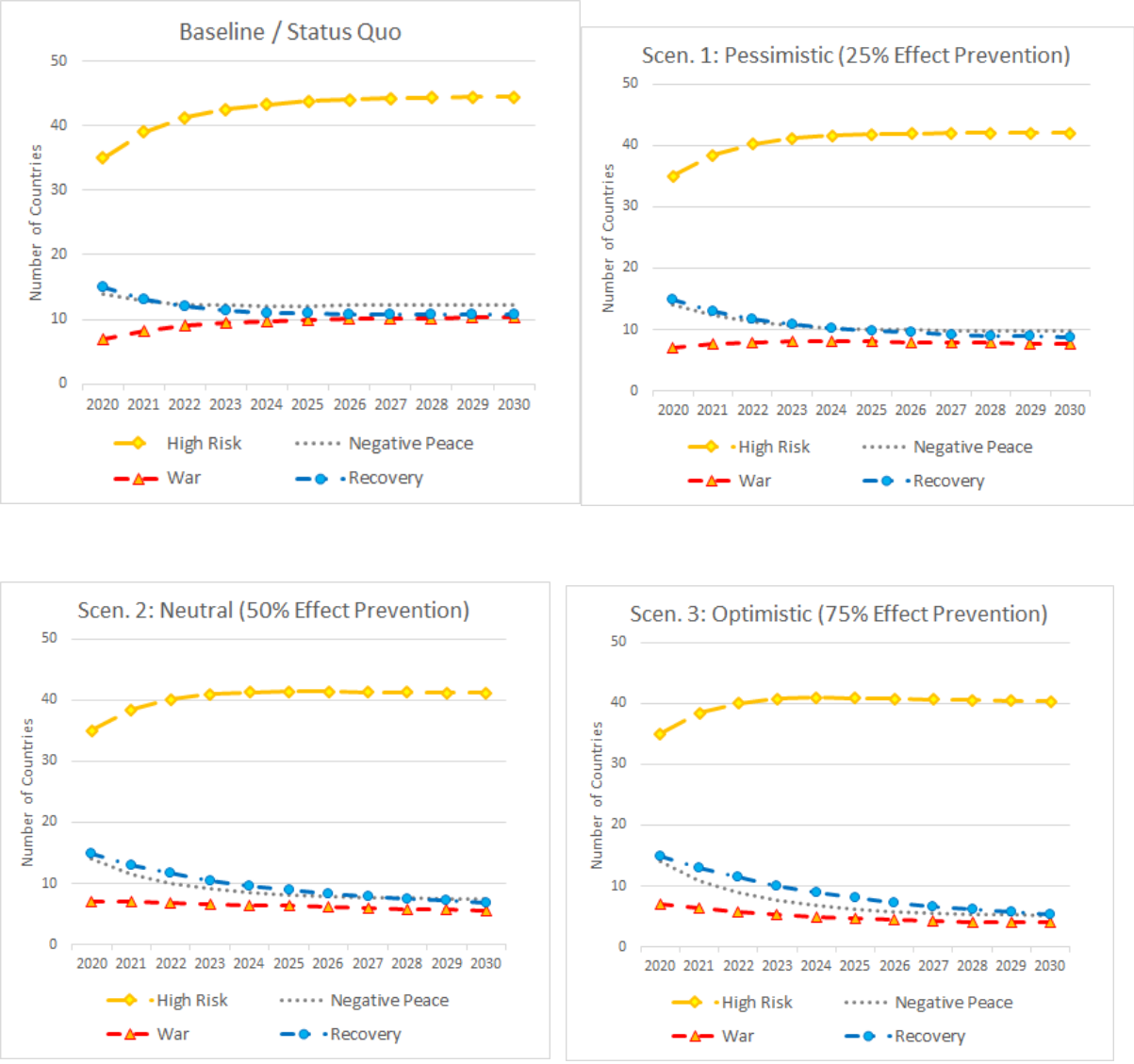
**The merits of conflict prevention**

There are significant benefits of conflict prevention based on different scenarios of 'successful' intervention. To understand prevention, we need to understand the virtuous spiral of peace. Countries at peace have usually remained thus (91.4% of countries at peace stay at peace). That said, many countries slip. A country at peace has a non-negligible chance that it could transition to 'high risk' (7.6%) or 'negative peace' (.5%) or even war (.5%). As noted above, a country at peace cannot move to 'recovery' (by construction).

Scenarios of prevention require modeling how effective prevention could be in avoiding war for countries in states of high risk, negative peace and recovery (shaded probabilities in the War row in Table 2). In each scenario, the probability of entering a state of war for each initial state (columns) is reduced by a percent given by the scenario (for the pessimistic scenario, the probability of war is reduced by 25% (1 in 4 times), for the neutral scenario 50%, and for the

optimistic scenario 75%). To avoid the risk that countries simply avoid war through authoritarian oppression (the threat of violence), the model also assumes a similar reduction in moving from high risk to negative peace. In each scenario, the reduction in the probability mass is moved to peace (row 1). The results of these scenarios are reflected in Figures 3a-3d (compared to the baseline/status quo scenario in Figure 3a).

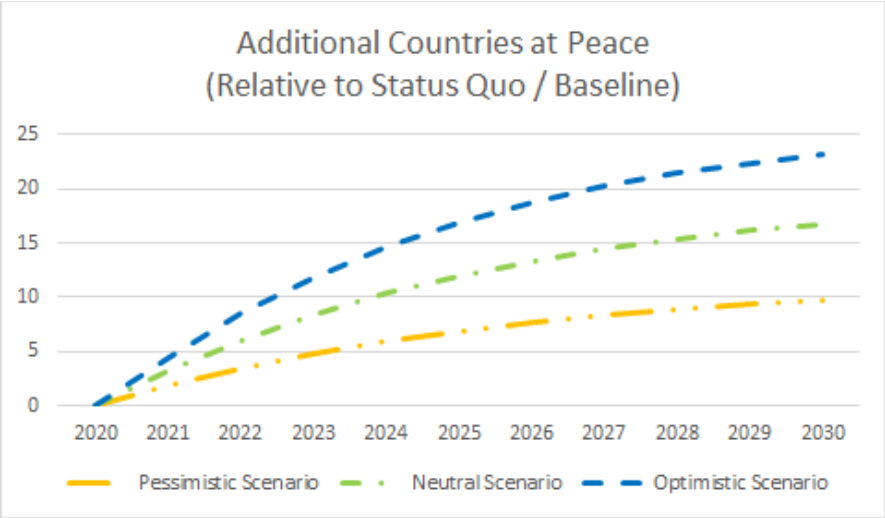
Figure 3a-d. Countries by state per year: 2020-2030




Using historical data to construct a "status quo" baseline scenario, countries plateau in 2030 at 10 countries at war, 44 countries at high risk, 12 in negative peace and 11 in recovery (figure 3a). In other words, doing nothing, we can expect only 114 countries (roughly 60% of the world's countries) to be at peace in 2030. Meanwhile, with a more proactive conflict prevention strategy and varying assumptions of effectiveness (panels 3b-3d), the number of countries in all four categories decreases relative to status quo, at increasing rates with more effectiveness (as would be expected). Most notably, the number of countries at war is decreasing in the neutral and optimistic scenario (downward slope in 3b and 3c) and the number of countries at high risk is

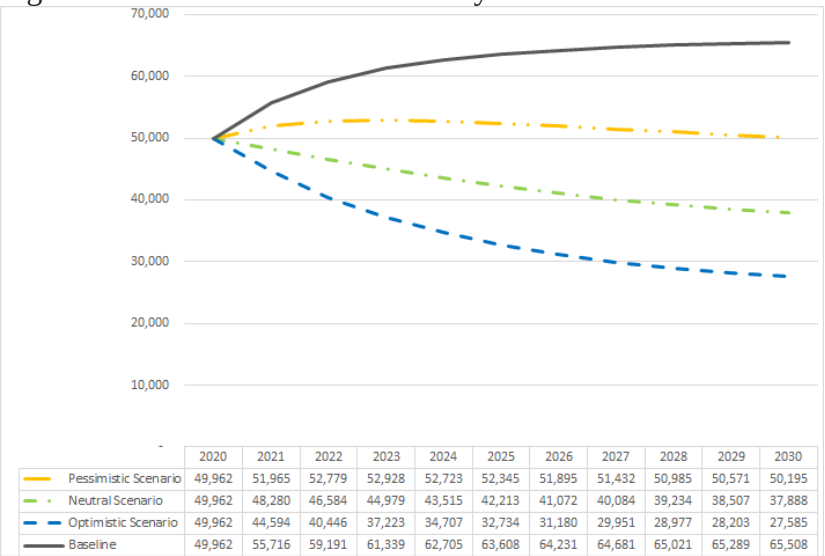
clearly lower and decreasing in the optimistic scenario (40 vs 44 in status quo). Not shown is the residual: the number of countries at peace in 2030 is 124 (pessimistic), 131 (neutral) and 137 (optimistic), significantly more than 114 under the status quo scenario.

Figure 4. Additional countries at peace in the three scenarios




If prevention is only effective even 25% of the time, it can result in more peace. This is the virtuous cycle that stands in contrast to the vicious cycle of the conflict trap. As countries avoid risk and war, they are more likely to stay in the relatively stable state of peace for a longer period of time. The annual effects in terms of relative number of countries at peace are shown in Figure 4. In the pessimistic scenario, where conflict prevention only works 25% of the time, ten additional countries would be expected to be peaceful in 2030. In the more optimistic scenarios where interventions work 50% or 75% of the time, 17 and 23 additional countries, respectively, enjoy peace in 2030.

Figure 5. Civilian and battle deaths by scenario




| | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Pessimistic Scenario | 49,962 | 51,965 | 52,779 | 52,928 | 52,723 | 52,345 | 51,895 | 51,432 | 50,985 | 50,571 | 50,195 |
| Neutral Scenario | 49,962 | 48,280 | 46,584 | 44,979 | 43,515 | 42,213 | 41,072 | 40,084 | 39,234 | 38,507 | 37,888 |
| Optimistic Scenario | 49,962 | 44,594 | 40,446 | 37,223 | 34,707 | 32,734 | 31,180 | 29,951 | 28,977 | 28,203 | 27,585 |
| Baseline | 49,962 | 55,716 | 59,191 | 61,339 | 62,705 | 63,608 | 64,231 | 64,681 | 65,021 | 65,289 | 65,508 |

Early prevention interventions can dramatically reduce the number of conflict-related fatalities, both battle deaths and civilian fatalities. Using estimates derived above in terms of lives lost per year of war and other states, it is possible to model the annual loss of life associated with each scenario (figure 5) by multiplying out the number of countries in each state by expected loss of life, refugees, displacement, etc. In a ceteris paribus or baseline scenario, the total number of fatalities increases to 65,000 a year by 2030. Meanwhile, more optimistic scenarios result in the halving of violent deaths to below 30,000 a year by 2030 depending on the effectiveness of the interventions. The model also projects a dramatic fall in the number of refugees and displaced, with a reduction of 9%, 17% and 23% in the least to most effective scenarios, respectively. The models are based on current statistics, so all effects are conservative estimates.

Of course, the loss of life, displacement and accumulated misery associated with war should be reason enough to invest in prevention, but there are also massive economic benefits from successful prevention. Foremost, the countries at war avoid the costly years in conflict, with growth rates 4.8% lower than countries at peace. They also avoid years of recovery and the risk of relapse into conflict. Where prevention works, conflict-driven humanitarian needs are reduced, and the international community avoids peacekeeping deployments and additional aid burdens, which are sizable. The world needs 16% fewer peacekeepers in 2030 under the pessimistic scenario, 27% fewer under the neutral scenario and 38% fewer under the most optimistic scenario. Prevented conflicts result in reductions in aid and peacekeeping expenditures of 10%, 17% and 24% annually, for the pessimistic, neutral and optimistic scenarios, respectively. All of these effects promote global growth and a global peace dividend up to $2 trillion dollars, as shown in figure 6a and 6b.

**Figure 6a. Global Economic Growth**

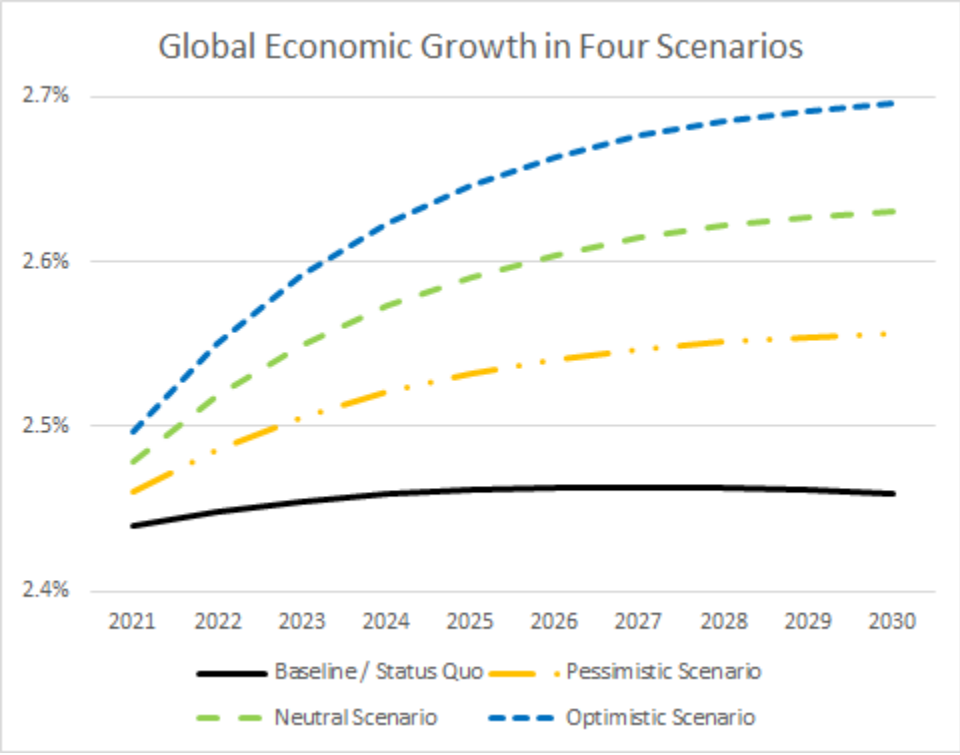
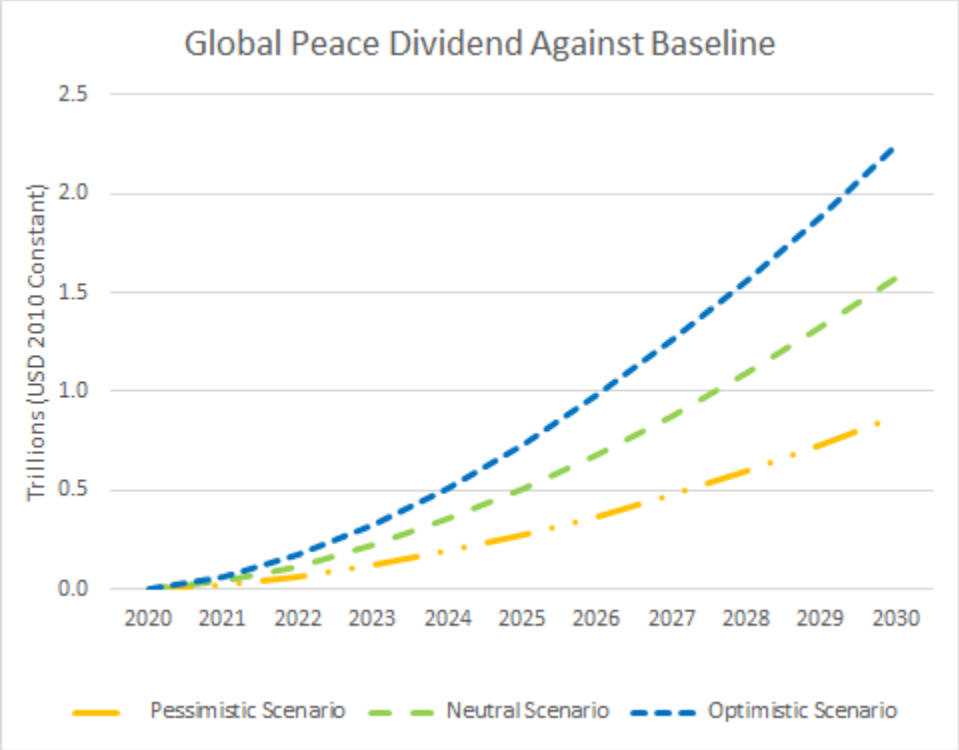


**Figure 6b. Global Peace Dividend (relative to Baseline/Status Quo)**




A more proactive prevention approach obviously implies more investment and the scenario approach allows modeling of the costs of prevention, in addition to the benefits. We assume that an average intervention costs $250 million in the most optimistic scenario (75% effective), $500 million in a neutral scenario (50% effective), and $1 billion in a pessimistic scenario (25% effective). For simplicity, these costs are assumed per intervention, though of course they would need to be adapted to context. These interventions would be necessary in countries at High Risk, Negative Peace countries and countries recovering from conflict. In the pessimistic scenario, 61 interventions would be necessary per year. In the neutral scenario, 59 interventions would be necessary a year. In the optimistic scenario only 57 interventions would be necessary per year. These costs and their benefits are summarized in Table 3.

Table 3. Benefits and Costs of Prevention under three scenarios
(Economic effects: USD, Billions, Cumulative 2020 to 2030)

| | | Pessimistic Scenario | Neutral Scenario | Optimistic Scenario |
|---|---|---|---|---|
| Intangibles | Lives Saved | 109,469 | 204,931 | 291,687 |
| | Displacement Avoided (person years) | 49.6m | | |

| | | | | |
|---|---|---|---|---|
| Economic Effects | Cost | (621.7) | (297) | (141.7) |
| | Savings on PKO and aid | 110.2 | 200.3 | 284.9 |
| | Additional growth | 3,708 | 6,774 | 9,708 |
| | Net Economic Benefit | 3,196.5 | 6,677.3 | 9,851.2 |

*Table Notes: Lives saved is based on reduction in civilian and battle deaths due to increased years of peace in prevention scenarios. Displacement avoided is millions of human years of displacement (ie. 10m people displaced over 10 years is 100m person years of displacement), including internal displacement and refugees. All economic effects are given in billions of USD, and are cumulative (summed) over the period 2020 to 2030) for each scenario. Costs are the additional costs of prevention, assumed to be $1B per country per year in the pessimistic scenario, $500m per country per year in the neutral scenario and $250m per country per year in the optimistic scenario. Savings on peacekeeping (pko) and aid (ODA) are expected savings based on current annual peacekeeping expenditures ($6.7B) and official development assistance ($149B), using percentages calculated above. Additional growth is the difference in economic growth for each scenario, relative to the baseline/status quo scenario. Net economic benefit is relative to status quo. Totals are in 2010 USD and have not been adjusted for future present value. This follows Box 1, UN-WB Pathways for Peace.*

The costs of the 25% intervention effectiveness scenario are considerable, averaging $62 billion per year through 2030. These costs start to be offset by benefits in growth in 2023, when total economic benefits surpass costs. Under the pessimistic scenario, however, the international community pays more over the next ten years than is saved on peacekeeping and aid ($622B vs. $110B). Additional economic growth globally surpasses these costs, reflecting the public good dilemma of peace provision in the pessimistic scenario. The benefits of a 50% effectiveness scenario are dramatically higher, kicking in almost immediately and reaching some USD$1.5 trillion per year by 2030 due to increased growth rates. The aid community still does not break even but pays only $96 billion by 2030 for trillions of dollars of extra peaceful growth. Predictably, the most dramatic benefits occur in the 75% effectiveness scenario. Specifically, the cost savings from aid and peacekeeping offset the additional costs of prevention by 2022 and the international community enjoys lower costs due to peacekeeping and aid through 2030. Annual global economic benefits of the additional peace are more than $2 trillion in 2030.

While we're focusing here on the next decade, it is important to note that these effects are persistent - investments in peace today have effects through 2030 and beyond. If prevention is effective, it starts to pay for itself as early as mid-decade. If prevention is not effective, it will save lives today and will eventually save money. Plus, if prevention is not effective, the only way it will become effective is by investment today - we won't learn how to do violence prevention better tomorrow unless we innovate today.

## Conclusion

The world can be significantly better off by addressing the high risk of destructive violence and war with focused efforts at prevention in countries at high risk and those in negative peace. This group of countries has historically been at risk of higher conflict due to violence against civilians, proliferation of armed groups, abuses of human rights, forced displacement, high homicide and incidence of terror. None of this is surprising, policymakers know that war is bad for humans and other living things. What is staggering is the annual costs of war that we will continue to pay in 2030 through inaction today - conceivably trillions of dollars of economic growth, and the associated costs of this for human security and development, are being swept off the table by the decisions made today to ignore prevention.