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The cost of inaction on health equity and its social determinants

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ABSTRACT

Rising levels of inflation, debt and macrofiscal tightening are putting expenditures on the social sectors including health under immense scrutiny. Already, there are worrying signs of reductions in social sector investments. However, even before the pandemic, evidence showed the significant returns on investments in health equity and its social determinants. Emerging data and trends show that these potential returns have increased during the COVID-19 pandemic - investments in social determinants can mitigate widespread reductions in human capital and the increasing likelihood of costly syndemics, while promoting access to healthcare innovations that have thus far been inequitably distributed. Therefore, we argue that, despite immediate fiscal pressures, this is exactly the time to invest in health equity and its broader social determinants, as the returns on such investments have never been greater.

SUMMARY BOX

⇒ Prior to the COVID-19 pandemic, there was ample evidence demonstrating the importance of investing in health equity and its social determinants.
⇒ COVID-19 increased the costs of inaction on health equity by causing significant backslides in human capital that have yet to be recovered, increasing the likelihood of costly syndemics, and spurring innovations in healthcare that have been inequitably accessed and thus ineffective in efficiently ending this pandemic and mitigating the impacts of future health threats.
⇒ While the required investments are threatened by the current macrofiscal environment, the case for action on social determinants of health is stronger than before the pandemic and critical for economic recovery and growth.

INTRODUCTION: THE COST OF INACTION ON EQUITY IN HEALTH AND ITS SOCIAL DETERMINANTS

The *2023 Global Economic Prospects* report projected that global economic growth would be so weak that it would put the world economy at high risk of recession that year.[1] As a result, countries have been more likely to face mounting financial stress that has threatened both government spending and aid budgets. At the same time, demands on the public purse are growing; countries face unprecedented, interlocking crises—an ongoing pandemic, rising geopolitical tensions and conflict, widespread food insecurity and the climate crisis, among others. Projections show that these crises will constrain health budgets—which, by 2027, will remain lower than prepandemic levels in 41 countries and only weakly increase in 69.[2] These limitations will be exacerbated by the corresponding rise in debt and interest payments across low-income and lower-middle-income countries.[2]

Large-scale investments in health equity and its social determinants can help put our world economy back on track (box 1). The high returns on investment (ROIs) in health have long been demonstrated (table 1), with each year of life expectancy gained raising gross domestic product (GDP) per capita by approximately 4% through improvements in human capital (box 2) and reductions in downstream healthcare needs and expenditures.[3 4] Since health is primarily driven by social determinants—which some studies estimate account for 70%–90% of modifiable factors in health outcomes, while health service delivery accounts for the remaining 10%–30%—so too are these associated economic returns.[5 6] But even more impressive ROIs can be achieved if investments are directly linked to reducing health inequities.

Unfortunately, there is clear evidence demonstrating that inequities both across and within countries have widened during the pandemic, increasing the imperative to act. For example, during COVID-19, income inequality between all countries *and* within emerging market and developing economies worsened, with larger projected impacts in the longer term.[7]

The case for improving social determinants of health (SDH) was emphatically made over 15 years ago,[8] yet progress has been stymied by the complex and seemingly inertial political economy of SDH. While the concept of SDH has gained some traction within the

Box 1 Defining social determinants of health (SDH)

The WHO defines the SDH as: "the conditions in which people are born, grow, work, live, and age" and the systems shaping these conditions including "people's access to power, money and resources".[16]

The SDH include the following: early childhood development; education; food security; housing, basic amenities and environment; fair employment and decent work (including working life conditions); social protection and universal health coverage.[16] They also include the commercial determinants of health, or "conditions, actions and omissions by corporate actors that affect health" (ie, access to tobacco, alcohol, unhealthy foods and many SDH including income, workplace safety, environmental degradation, working life conditions and access to healthcare).[26]

Structural discrimination underlies inequities in SDH, including discrimination by race, class, gender and sexuality, religion and disability, among others. Inequities in SDH, in turn, are the drivers of inequities in health—"unfair, avoidable, and remediable differences in health between social groups".[16]

health community, entrenched interests to preserve the status quo, which favours concentration and retention of power and resources in global and national elites over improving equity for all, remain fundamental barriers to progress. In the face of such challenges, champions of SDH are tasked with doubling down on efforts to strategically and coherently engage with the political elites who hold decision-making authority over SDH across countries—including Ministers of Finance. To this end, while insufficient on its own, a sharpened investment case for SDH is one key tool to engage political elites on the cost of inaction and ROIs in health equity, in quantitative, economic terms.

HOW COVID-19 HAS INCREASED THE COSTS OF INACTION ON HEALTH EQUITY AND ITS SOCIAL DETERMINANTS

The ROI for health was among the highest for any investment before the COVID-19 pandemic, and there are at least three reasons why COVID-19 has increased the costs of inaction on, and conversely the ROI in, health equity and its social determinants.

Reductions in human capital

First, COVID-19 has reduced human capital; if investments in human capital—including health and its social determinants—are not realised, these backslides will thwart economic recovery. Already, based on reversals in progress in education alone, the productive potential of today's children throughout their life course is significantly lower than predicted prior to the pandemic,[9] leading to lifetime labour losses of 12% of the prepandemic global GDP.[10] These projections do not even consider the effects of other SDH on human capital development—including the impacts of caregivers' well-being and trauma on children's early development and future productivity.

The health and economic losses incurred by caregivers will impact early childhood development beyond backslides in education. Unemployment, income loss and inadequate access to social services will limit parents' and caregivers' productivity but also children's development through exposure to stress and trauma ranging from inadequate childcare to housing instability. These children's lives will be shaped by the morbidity and mortality of their caregivers—the inequitable but pervasive physical and psychological stress caused by the pandemic, social isolation and effects on productivity.

COVID-19 was and remains the harbinger of multiple and impending interlocking crises that will hamper the human capital of future generations. Today's children experience mounting physical and mental health burdens caused by contemporary SDH, from pandemics to political and economic crises to climate change-related anxiety, which will continue to impact their and their children's human capital development and utilisation.[11]

Increased likelihood of syndemics

Second, COVID-19 has both demonstrated that inaction on equitable SDH gives rise to and increased risk of costly syndemics. Syndemics, or synergistic epidemics, describe the co-concentration of diseases in a specific community, driven by the "social, economic, environmental, and political milieu in which a population is immersed", in other words, the social determinants of health. The negative biological interaction between overlapping diseases makes outcomes for each worse.[12]

Even before the pandemic, studies showed the immense economic costs of endemic diseases driven by inequitable SDH. After adjusting for national GDP, within-country income inequality in low- and middle-income countries (LMICs) has been correlated with greater *all-cause* mortality across all age groups.[13 14] Relative poverty within countries has also been shown to increase risk of mental illness, which in turn worsens economic outcomes for affected individuals—who experience higher direct medical expenses alongside reduced productivity due to impaired concentration, greater fatigue, etc.[15] Income inequality within countries, independent of national GDP, therefore has increased avoidable healthcare costs, reduced human capital and its full utilisation, and thereby threatened economic recovery and growth. Estimates in high-income countries corroborate this claim, showing that inequities (across race, gender and socioeconomic status) can cost economies billions (see table 1).

Inequities in SDH—including housing, education, essential work and work conditions, and access and affordability of healthcare—increased marginalised populations' exposure to COVID-19.[16] The biological interaction of COVID-19 with existing epidemics, like chronic diseases, concentrated in marginalised populations exacerbated the severity of each.[17] Data show that during the first 2 years of the pandemic, greater excess deaths occurred in countries with greater income inequality, and to a lesser extent, inequality in access to healthcare.[18] Preliminary analysis of data from January 2020 to February 2023 is consistent with these

Table 1 Selective literature on the cost of inaction on health, SDH and SDH equity

Resource	Country	Objectives	Key findings (quoted or paraphrased from original source)
Returns on investment in and cost of inaction on health			
Ridley *et al*[15]	Multinational	To review the interdisciplinary evidence of the bidirectional causal relationship between poverty and common mental illnesses—depression and anxiety—and the underlying mechanisms.	► Mental illness worsens economic outcomes for individuals (interventions to treat mental illness increase days worked). ► Mental illness reduces work productivity through reduced concentration and greater fatigue. Social stigma may further worsen labour-market outcomes. ► Mental illness can increase catastrophic health expenditure due to comorbid chronic illnesses and worsen education and skill acquisition in youth, gender inequalities and children's cognitive development.
Jamison *et al*[3]	Global	To develop a new investment framework to achieve dramatic health gains by 2035.	► The ROI in health is 9:1. ► Reductions in mortality account for approximately 11% of economic growth in low- and middle-income countries from 1970 to 2000.
Returns on investment in and cost of inaction on social determinants of health			
Remes *et al*[5]	Global	To quantify the upside of focusing on health as an investment with economic and social benefits.	► The global disease burden can be reduced by 40% over the next 20 years through existing interventions; over 70% of health gains can be achieved from prevention with focus on improving clean and safe environments, healthy behaviours and access to vaccines and preventative medicine. ► The economic benefits from health improvements will add $12 trillion (8% of global GDP) in 2040, (1) by expanding future employment through fewer early deaths and fewer health conditions and (2) through productivity gains achievable by workers who are physically and cognitively healthier. ► The expansion of the labour supply in a healthy growth scenario could add 0.3% to global employment growth. 80% of this expansion would occur in low- and middle-income countries.
WHO Regional Office for Africa[27]	WHO African Region	To quantify the GDP losses associated with the burden of disease from, for example, communicable, maternal, perinatal, nutritional and non-communicable conditions in the WHO African Region.	► The total DALYs across the African Region in 2015 amounted to productivity losses of around Int$2.5 trillion, 47% of which may be saved if SDG targets are achieved by 2030. ► NCDs, many of which have avoidable morbidity and mortality, accounted for 30.7% of DALYs across the African Region but were the largest categorical cause of productivity losses (37%).
Dyakova *et al*[28]	WHO European Region	To examine the evidence for social returns on investment from public health policies.	► Unhealthy lifestyles: – Globally, the effects of tobacco cost the world economy $500 billion per year; alcohol misuse costs the world economy 1%–3% of GDP per year. – In the WHO European Region, physical inactivity costs €150–300 per person per year. ► Preventable NCDs: – In the WHO European Region, two-thirds of premature deaths in 2016 were caused by the four main NCDs (cardiovascular diseases, diabetes, cancer and respiratory diseases) and led to an annual economic cost of $139 per person in countries with a GNI under $12 475 per capita. – In the EU, cardiovascular disease and cancers pose an economic cost of €169 billion and €117 billion, respectively. – In the WHO European Region, depression costs the economy between €92 million and €136.3 billion.

Continued

Table 1 Continued

Resource	Country	Objectives	Key findings (quoted or paraphrased from original source)
Buck[29]	United Kingdom	To develop a business case to support decision-making on actions to address the social determinants of health.	*Examples of data presented:* ► The best start in life: – Cost of Illness: each annual cohort of preterm/low birth weight babies costs an additional £3 billion from birth to age 18. ► Healthy schools and pupils: – ROI of every additional 4 years of education is 7.2:1 in the value of health and other outcomes. – ROI of smoking prevention programmes in schools is 15:1. ► Helping people to find good jobs and stay in work – Cost of illness: workplace injuries cost £13.8 billion in 2010–2011 and sickness. Absence contributes to an overall cost to productivity of £100 billion per year – ROI of community programmes that get disadvantaged groups back into work is 3:1. – ROI of employee wellness programmes is 2 to 10:1. ► Active and safe travel: – Cost of illness: transport-related poor air quality, ill-health and accidents cost at least £40 billion, with accidents accounting for £9 billion. – ROI of cycling provisions is 4:1. ► Warmer and safer homes: – Cost of illness: poor housing costs the NHS at least £2.5 billion per year. – ROI of community housing programmes can be 2:1.
Brown *et al*[30]	Australia	To consider economic dynamics of ignoring the WHO's recommendations for Australia on social determinants of health.	If the WHO's recommendations were adopted within Australia: ► 500 000 Australians could avoid suffering a chronic illness; ► 170 000 extra Australians could enter the workforce, generating $8 billion in extra earnings; ► Annual savings of $4 billion in welfare support payments could be made; ► 60 000 fewer people would need to be admitted to hospital annually, resulting in savings of $2.3 billion in hospital expenditure; ► 5.5 million fewer Medicare services would be needed each year, resulting in annual savings of $273 million; ► 5.3 million fewer Pharmaceutical Benefit Scheme scripts would be filled each year, resulting in annual savings of $184.5 million each year. ► The overall extra earnings could total approximately $6–8 billion per year.
Returns on investment in and cost of inaction on inequities in health and its social determinants			
Mackenbach *et al*[31]	European Region	To quantify the economic costs of socioeconomic inequalities in health in the European Union.	► Economic losses due to health inequities account for 20% of the total costs of healthcare and 15% of the total costs of social security benefits. ► Inequality-related losses to health reduce labour productivity and reduce GDP by 1.4% each year. ► The monetary value of health inequality-related welfare losses is estimated to be €980 billion per year or 9.4% of GDP.
Reid *et al*[32]	New Zealand	To investigate health inequities between Māori and non-Māori adults in New Zealand (NZ) and estimate the economic costs associated with these differences.	► Health inequities between Māori and non-Māori adults cost NZ$863.3 million per year. ► Direct costs of NZ$39.9 million per year included costs from ambulatory-sensitive hospitalisations and outpatient care, with cost savings from underutilisation of primary care. Indirect costs of NZ$823.4 million per year came from years of life lost and lost wages.

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Table 1 Continued

Resource	Country	Objectives	Key findings (quoted or paraphrased from original source)
Bhatt *et al*[33]	USA	To quantify the link between healthcare spending and healthcare disparities related to race, socioeconomic status and sex/gender; to analyse several high-cost diseases (eg, diabetes, asthma and cardiovascular disease), determine the proportion of spending that could be attributed to health inequities today and trend the spending to 2040—while accounting for changes in population and per capita spending.	► Health inequities account for approximately $320 billion in annual healthcare spending. If unaddressed, this figure could grow to over US$1 trillion by 2040. The projected rise in healthcare spending could cost the average American at least $3000 annually, up from today's cost of $1000 per year.
Politzer *et al*[34]	Israel	To estimate the economic costs of health inequalities associated with socioeconomic status in Israel.	► The annual welfare loss due to higher mortality in socioeconomically submedian localities is estimated at about US$1.1–3.1 billion. ► The annual loss in productivity due to illness among low-income and poorly educated workers is US$1.4 billion. ► The annual net healthcare cost due to excess healthcare use among those of lower socioeconomic status is US$80 million. ► The excess government expenditure on disability benefits and tax exemption for the disabled is US$450 million. ► The total cost of the estimated health disparities is equal to 0.7%–1.6% of Israel's GDP.
Turner[35]	USA	To connect the dots between current policies and practices, human capital constraints, untapped markets and lost revenues.	► Eliminating racial disparities could yield a potential economic gain of $135 billion per year, including $93 billion in excess medical care costs and $42 billion in untapped productivity. ► The US economy could be $82 trillion larger by 2050 if racial disparities in health, education, incarceration and employment were eliminated.
Marmot *et al*[36]	England	To propose the most effective evidence-based strategies for reducing health inequalities in England from 2010.	► Health inequities account for productivity losses of £31–33 billion per year, lost taxes and higher welfare payments of £20–32 billion per year and additional NHS healthcare costs over £5.5 billion per year.
Costs of the COVID-19 pandemic			
Yeyati and Filippini[10]	Global	To provide a succinct summary of existing economic literature on the economic and fiscal impact of the pandemic and a preliminary estimate of the associated economic cost.	► The financial costs of COVID-19 in terms of lost output from 2020 to 2030 are estimated to be around 54.7% of total global GDP in 2019 ($47.7 trillion). ► Conservatively, the total cost of lives lost to COVID-19 through 2021 amounted to roughly 16.9% of global GDP in 2019. ► The lifetime labour loss of children/students whose education was interrupted by the pandemic amounts to roughly 12% of global GDP in 2019. ► Adding to these numbers the global fiscal impulse and change in gross government debt, the total estimated cost of the pandemic is 100% of GDP in 2019, which is a conservative lower bound.
The Economist Intelligence Unit)[21]	Global	To quantify the costs of global vaccine inequity.	► Vaccine inequity is estimated to cost the global economy US$2.3 trillion by 2025. ► In absolute terms, Asia will be most severely affected (US$1.7 trillion). ► As a share of GDP, sub-Saharan Africa will register the highest losses (3% of region's forecast GDP in 2022–2025).

Continued

Table 1 Continued

Resource	Country	Objectives	Key findings (quoted or paraphrased from original source)
Richards *et al*[37]	Global	To conduct a systematic review of studies that assessed the economic burden (ie, direct costs, productivity, macroeconomic impact due to non-pharmaceutical interventions and equity) of COVID-19.	▲ The main drivers for higher costs in hospitals were consistent across countries and included ICU admission, in-hospital resource use such as mechanical ventilation, which led to increased costs of $2082.65±345.04 to $2990.76±545.98. ▲ On a macroeconomic level, the COVID-19 pandemic was reported to cause GDP losses as a result of loss in productivity and implementation of non-pharmacological interventions.
John *et al*[38]	Kerala, India	To estimate DALYs, years of potential productive life lost and cost of productivity lost due to premature mortality and absenteeism secondary to COVID-19 in the state of Kerala, India	The estimated cost of DALYs from COVID-19 between the start of the pandemic and June 2021 was estimated to be 1 697 833 399 rupees.

DALY, disability-adjusted life year; EU, European Union; GDP, gross domestic product; GNI, gross national income; ICU, intensive care unit; NCD, non-communicable disease; NHS, National Health Service; ROI, return on investment; SDG, Sustainable Development Goal; SDH, social determinants of health.

Box 2 Defining human capital

As outlined by the World Bank, both human and physical capital are required for economic growth and development. Human capital is defined as "the knowledge, skills, and health that people accumulate throughout their lives, which enable them to become productive, members of society".[9] Therefore, human capital depends on education and health throughout the lifespan.

The Human Capital Index (HCI) is a measure that intends to capture the amount of human capital, or productive potential, a child born today could expect to attain by age 18.

Yet data show that gross domestic product (GDP) and HCI are not perfectly correlated, which suggests several key insights.[9]

First, national averages of HCI may obscure important human capital inequities across social groups *within* countries. For example, disaggregated analyses show that poor and rich households within a single country do not always benefit evenly from national gains in average human capital.[9]

Second, productive *potential* may not translate into actual productivity due to barriers to full employment. For example, in many countries, gender-based barriers to employment lead to significant gaps in how human capital is actually used across genders.[9] It is likely that similar gaps, which reduce the return on investment (ROI) in human capital, exist across other discriminatory structures—including race or ethnicity, religion, and gender identity and sexual orientation, among others.

Third, inequities in human capital and how it is used may threaten the ROI in human capital (ie, investments in the education and health sectors) and therefore economic growth and development. The ROI forgone by these human capital gaps has not been quantified.

trends—and suggests that excess deaths were higher in countries with lower per capita GDP, higher poverty rates and greater income inequality.[19]

The persistence and exacerbation of marginalised groups' vulnerability to COVID-19 perpetuated an ongoing global health crisis that has caused devastating economic costs amounting to at least 100% of the prepandemic global GDP by 2030.[10] According to the International Labor Organization, global unemployment increased by 33 million, the global economy contracted by more than 3%, and almost 95 million people were pushed into extreme poverty in 2020 alone. The loss of working hours during the pandemic is estimated to be four times greater than the global financial crisis in 2009. These losses have also been inequitable, with women affected more than men, and low-skilled workers facing higher job losses than medium and high-skilled workers.[20]

These widening inequities in SDH have been accompanied by the worsening of chronic conditions from the disruption of essential services alongside the addition of new ones—the long-term physical and mental consequences of COVID-19. These trends are a set up for not only new COVID-19 variants but also future syndemics and the associated compounding economic costs—from shutdowns affecting schools and employment to border closures. Countries have already begun to reckon with this threat, as they faced the confluence of influenza, Respiratory Syncytial Virus (RSV), and COVID-19

(commonly referred to as the 'tripledemic') in late 2022. During syndemics, as patients flood hospitals, healthcare access across all society is strained.

The likelihood of infectious outbreaks with pandemic potential, on top of endemic diseases, will continue to increase as political conflict and instability persist, food and water access are challenged, and the climate changes.

Proliferation of inequitably distributed healthcare innovations

Finally, innovation has yielded more cost-effective technologies, diagnostics and medicines, increasing the potential ROI in health, which can only be realised if these health products are equitably accessed. For example, the pandemic saw the development, approval and adoption of the first mRNA vaccines, an achievement that was accelerated and facilitated by decades of tax-funded research in the USA and elsewhere. This mRNA technology has the potential to revolutionise how new vaccines are developed, not limited to COVID-19. Yet the social and commercial determinants of COVID-19 vaccine inequity have limited the ROI in this novel technology. From trade regulations to limited local manufacturing capacity to distributional bottlenecks, COVID-19 vaccine inequity is projected to cost the global economy US$2.3 trillion by 2025, not including the enduring impacts of the emergence and spread of variants.[21]

On the other hand, globally, additional investments of around $2.9 trillion in health and its social determinants can add US$12 trillion or 8% to annual GDP in 2040, through increased productivity of workers linked to better health. Improvements in health could add 0.3% to global employment growth, with 80% of the gains in health and labour force participation occurring in LMICs.[5] Inequities in access to novel health products and technologies both across and within countries will only continue to squander opportunities to maximise their impacts on health, human capital and the global economy.

THE WAY FORWARD

In the face of a sluggish global economy, it may be tempting to avoid additional social spending. But attempts to pursue economic growth while neglecting to close health equity gaps within and across countries can backfire in the long run.

The costs of inaction on SDH demonstrate that without coordinated and sustained large-scale investments in equity in health and its social determinants, health and economic recovery will not be realised. Inclusive recovery hinges on intentional policy changes at the local, national, regional and global levels to enable investment in health equity and its social determinants.[22]

First, national spending on health and alongside other social sectors must be the number one priority to safeguarding health and economic well-being in the long term. In fact, studies show that during economic crises, it is the policy response more than the economy itself that impacts health outcomes—stimulus policies improve health outcomes, while austerity policies worsen health.[23]

Second, given the limited fiscal space particularly in LMICs, aid must grow to fill projected gaps in public spending across social sectors. Pandemic prevention, preparedness and response (PPR) has been characterised as a global public good, mobilising some aid for this purpose. However, PPR will not be achieved unless the risk of syndemics is reduced, through concerted investments to reduce health inequities including their drivers within and outside of the health system itself. This shift requires significantly more international support to ensure adequate spending on health and its social determinants.

Finally, these investments should be complemented by policy changes that also aim to reduce health inequities within and across countries. Within countries, this will entail, at its core, addressing and mitigating structural discrimination through political and economic means. Across countries, there is an urgent need to re-examine the global political economy—spanning trade policies that affect SDH, including those that impact access to vaccines and medicines, and harmful substances like tobacco, alcohol and junk foods.

CONCLUSION

The case for closing gaps in SDH is as much moral and ethical as it is economic, underpinned by a value system that does not view human life solely as an engine of economic productivity. The ideas of human capital and human capital utilisation are imperfect—in that, for example, they seem to value health and education insofar as they contribute to labour development as opposed to *human* development and agency. However, these concepts are critical tools for quantifying the economic decisions and tradeoffs that policymakers grapple with every day—namely to what extent they should invest in SDH.

The impacts of SDH on human capital and health expenditures demonstrate that in the current fiscal environment, investments in SDH are not merely idealistic nor utopian, but practical, achievable and required for economic recovery. According to the United Nation Conference on Trade and Development (UNCTAD), "a return to pre-pandemic austerity will reduce annual global growth by 1% and increase the global unemployment rate by 2% until 2030".[24] On the other hand, significant public investment in equitable SDH, undergirded by international support, could double global growth over the next decade and facilitate a fairer society.[24]

When all impacts of SDH are considered, the economic case for investing in SDH is stronger than before the pandemic and arguably more compelling than the investment case to bailout banks after the financial crash in 2008. But even though it is estimated to require a fraction of the resources used for the bank bailouts (around $3 trillion globally compared with up to $29 trillion in

the US alone, respectively), investments in SDH are not being realised and may even go backwards.[5 25]

The investment case for SDH is necessary, but not sufficient to achieve progress in SDH. Translating it into action will require stakeholder analysis and strategic engagement on the political economy of SDH. But at this inflection point—at which some communities and countries are declaring an end to the pandemic while others continue to suffer the confluence of multiple crises—the investment case serves as a critical tool to communicate that equity in health and its social determinants generate quantifiable returns, not costs, towards collective economic security and growth.

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