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Measuring multidimensional inequality and conflict in Africa and in a global comparison

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During the ongoing COVID-19 pandemic, it has become apparent that the impact on society varies greatly due to the existing disparities both between and within countries. The number of people infected, the mortality rates, the social and economic impact of the pandemic itself and the countermeasures imposed are extremely heterogeneous. With these revealing disparities emerges a discussion about and how inequalities affect our societies. Inequality might have direct influence on the economy, growth rates, protests, and conflicts. This debate reveals the ongoing interest in understanding the impacts and dimensions of inequality and its consequences. We contribute to this topic by empirically examining the effect of inequality on the probability of civil war outbreak in Africa and globally through the construction of a multidimensional inequality index.

Previous empirical studies have mainly focused on income inequality. However, inequality is a heterogeneous concept with several dimensions that must consider diverse living conditions. It follows that calculating a multidimensional inequality measure requires data on several dimensions in addition to income, which include education and healthcare. Health inequality, highlighted today due to the pandemic, can be a key element in understanding how unequal societies are. Besides, limited data on income distribution is available for both previous decades and for developing countries. In comparison, data from social surveys on health and land distribution is available for a larger number of countries and earlier decades. Combining available data on income distribution in contemporary societies with anthropological measures into a joint index, offers enormous potential for analysing the development and impact of inequality over time. The main contribution of this paper is the construction of a measure of inequality that goes beyond income inequality in terms of its time coverage and dimension, while still being correlated to it.

Health inequalities are reflected in the height distribution between individuals as they mirror inequalities in diet, medical care and social circumstances during childhood and adolescence

(Baten and Blum, 2011). Health inequality, measured as gini coefficient, reflects the final height of an adult and is highly correlated with income inequality. It can therefore be assumed that height distribution reflects the general inequality within a country to a certain degree, which has already been confirmed in empirical studies (for review see Baten and Blum, 2011). Our dataset is based on the data collection of heights by Baten and Blum (2015), available from Clio Infra. For the period 1800 onwards, we substantially expand this dataset in its coverage of countries, years and add missing values. Additional data on height is derived from the DHS Database, different social surveys and through personal communication with authors. Another suggested anthropological measure is land inequality, which reflects the size of distribution of land holdings. Landowner is defined as those who produce on their own land or leased land. It shows the extent to which landowners have control over land as production factor. Easterly (2007) examines a cross-national sample and finds that an unequal distribution of land promotes not only structural inequality but also inequality in a general sense. The inequality of land ownership contributes to the divergence of per capita incomes worldwide, the long-term effects of which we can still observe at present. Gini coefficients for land inequality are derived from landowner and total area data available from the FAO, calculated based on Frankema, 2005, 2010.

Having identified health and land inequality as appropriate measures of inequality as they are highly correlated with income inequality, the main challenge is to determine the weighting and thus decide to what extent each measure contributes to the joint index. By including a weighting for the degree of urbanization, we have considered that in urbanised and more developed countries, land as well as health inequality may not be influenced by variation in nutrition levels or the quality of health care. Whereas land inequality plays a greater role in less developed countries with a high population density in rural areas. To validate our constructed inequality index, we compare it with income indices from different databases (OECD, World Bank, World Inequality Database) that differ in their time and country coverage. The inequality index is correlated and significant. By combining data of income inequality with health and land inequality data, we construct a consistent dataset for 116 countries and cover a period from 1810-2010.

As we analyse the impact of inequality on conflict, we focus on the onset of civil wars on a country level, namely intrastate wars. Including several control variables that are widely used in previous research, we find that the risk of a civil war increases in a country with higher levels of inequality. Compared to other world regions, Sub-Saharan Africa and North Africa are notable as regions with high inequality and the same time a high number of civil wars. Our analysis confirms the positive link between inequality and civil wars in Africa: The risk of civil wars increases significantly with higher levels of inequality.

Using different regression models and a different set of variables, our results remain robust. We also control for differences in low- and high-income countries. In poor countries, the estimated

impact of inequality of the risk of civil war is much higher, while in very rich countries it is no longer significant. To address the potential of reverse causality, we apply an instrumental variable (IV) approach.

Does inequality influence the occurrence of conflict? Although this question is widely addressed in the literature, there is no consensus “if, why, and how” inequality increases the likelihood of conflicts. Looking at different dimensions of inequality and constructing a broader measurement of economic inequality allows us to look at factors other than income, for example socio-economic effects such as access to nutrition or healthcare. In addition, we address the often-mentioned problem of data availability, especially in developing countries and early periods. The inclusion of anthropological measures can overcome these problems and allows to build a broad and consistent dataset. With our long-term analysis, we hope to provide country-specific insights to better understand the dynamics and impact of inequality on conflict.