News & Views on NATFOOD-22090892A

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Proposed by Engel in 1857 and confirmed to still hold for nearly all countries [1], Engel's law states that poor households spend a higher proportion of their income on food. When consumer food prices go up, the increased costs are more acute for poor households with potential consequences for food security, short-term poverty, and longer-term poverty reduction. Many rural poor households are also food producers however, and when food prices go up so does the potential income for food producers [2].

What higher food prices mean for poverty in the short run has been debated. Flexibility of labour and capital, availability of resources and inputs, the timing of food price increases relative to planting decisions, external socio-political or environmental drivers of the food price rise such as conflict or drought, resilience factors such as social safety nets [3], and potential measurement error from household surveys, all complicate analysis of production response in agricultural households to higher prices. Most analysis suggests that higher food prices increase poverty in the short run, even in rural areas [4]. Headey and Martin in [4] found instead that higher food prices could reduce poverty rates in the same year with wage responses of unskilled labour a determining factor. For longer-term adjustments of production, labour, and capital, evidence indicates that persistent higher food prices are poverty reducing [4].

Writing in Nature Food, (the article) provides further evidence that food production in lower-middle income countries can respond in the shorter term to food price rises, potentially offsetting the income effects of higher food prices in households of agricultural workers. Responses were observed in the same year of food price rise events during and outside years of 'crises' such as surges in cereal food price indices after the financial crises [5]. In (the article) a food price rise is the positive percentage difference between the food and non-food consumer price indices (CPI). The poverty response to food price rises varies across countries based on urban ratios, with an expected stronger response in less urban countries and neutral or negative response in countries with an urban ratio above 65%.

The evidence in (the article) suggests that some countries have increased resilience to higher food prices events through production responses and flexibility in labour markets. Production responses require capacity. Conflict, limited infrastructure, lack of access to farm inputs such as fertiliser, drought, and extreme weather, limit short-term capacity for production responses. Depending on national staples and market integration [6], it is also likely that the best responses in the short term come through supply to local markets. Responding directly to higher prices in international commodities and cash crops requires more capacity, access to international markets, and may be less efficient [7].

(the article) conclusion is based on p-values from cross-country linear regression. The historical data spans 33 lower-middle income countries and 22 years up to 2022. As expected from variation in capacity between countries and the temporal variability of supporting and limiting factors, the

relationship was noisy. Adjusted R-squared values were low. What this means is that the relationship between food prices and poverty rates was observed on average the across the 33 countries and 22 years and is not predictive for single countries in single years [8]. Future high food price events may well, singularly, have an adverse effect on the rate of poverty reduction, depending on prevailing policies and conditions.

Conclusions based on p-values require stability of underlying phenomena. In this case, the application of the conclusions on short-run poverty for future policy requires that the features, policies, agricultural, and labour conditions of the countries in the historical data of the study persist for those countries with extreme poverty and high share of agricultural employment into the future (Figure 1). The changing nature of international poverty means that extreme poverty will concentrate and persist in fewer countries [9]. Predominately in Sub-Saharan Africa.

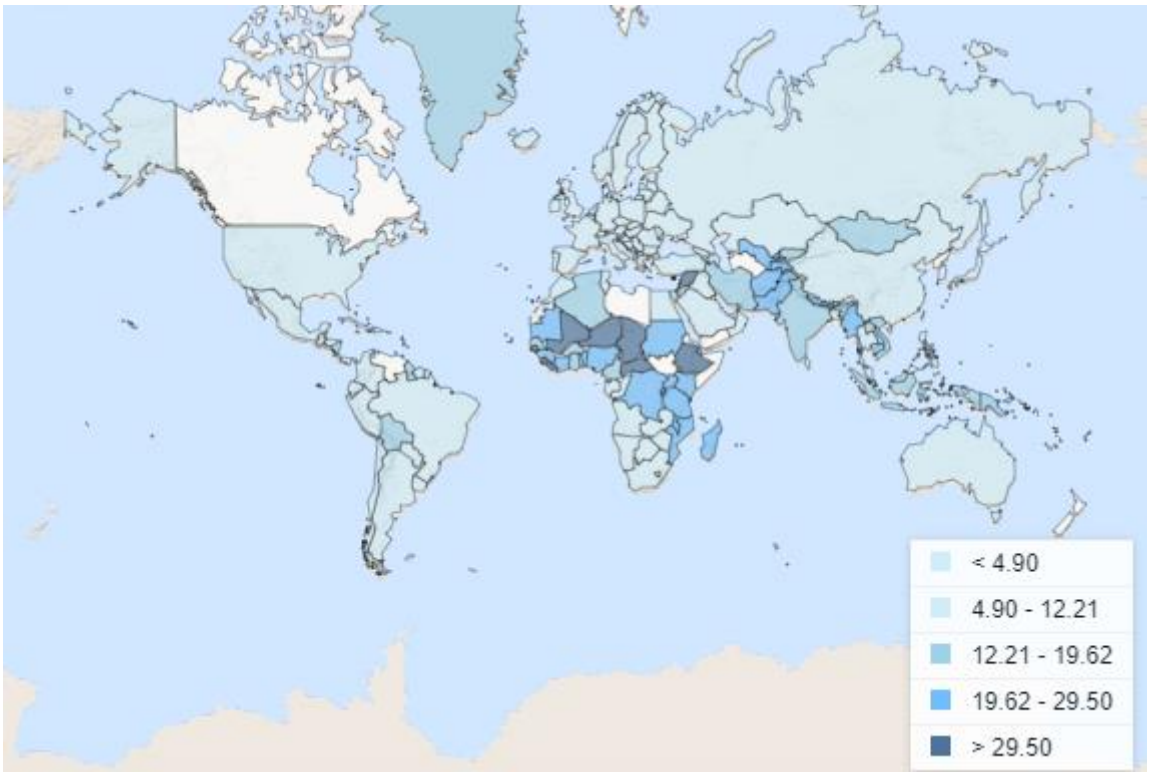

Figure 1: Spatial distribution of share of Agriculture, Forestry and Fishing sector in GDP in 2020. India, the largest economy in Southern Asia, has a share of Agriculture, Forestry and Fishing at 18% in GDP PPP in 2020. Over the last fifty years, high poverty rates have been observed in Latin and South America, and Southern and South-Eastern Asia, coinciding with large shares of agricultural employment and contribution to gross product. However, poverty is concentrating in fewer countries with entrenched conditions that complicate further progress. Economies in Latin America, Southern and South-Eastern Asia are now structurally different than most countries in Sub-Saharan Africa. Source: World Bank indicators
https://data.worldbank.org/indicator/NV.AGR.TOTL.ZS?end=2020&name_desc=false&start=2020&view=map

The features of countries with resilient responses may also have been self-exhaustive, meaning that those countries with the enabling capacities such as political stability, infrastructure, flexibility in land-use and labour markets, are the same countries that have already largely eliminated extreme poverty during the historical period. This challenges the stability of the study. Further research is needed beyond statistical inference between real food price events, agricultural employment, urban ratios, and rate of change in poverty rates, to identify the features and policies of countries in the past that were able to respond and resist income effects. Further investigation will improve our

knowledge about the features and policies that can enhance resilience to real food price rises for the countries facing entrenched extreme poverty over the next decades.

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