

Bread and Freedom: Linking Democracy and Food Security in Sub-Saharan Africa

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Abstract: This article looks at the effect of politics on food security in thirty-eight Sub-Saharan African nations since 1990. In so doing, it helps clarify the causal mechanisms through which democracy impacts hunger. In contrast to previous empirical research where democracy is often treated as one-dimensional, this study incorporates multiple measures of democracy and freedom. The cross-national statistical analysis uses data from the Global Hunger Index of the International Food Policy Research Institute (IFPRI), as well as data on democracy and civil liberties from a variety of extant sources. The article finds that while variables measuring the procedural and institutional elements of democracy are not connected to levels of hunger in Africa, the protection of civil liberties is moderately associated with improved food security. This conclusion is borne out by a brief case study of Ghana, whose democratic transition in the 1990s has proceeded in tandem with significant reductions in hunger. Taken together, this suggests that the positive effects of democracy on food security in Africa are not a result of the opportunity for Africans to discipline non-responsive elites at the polls, but of the effectiveness of political liberalization in creating new spaces for vulnerable populations to mobilize and to make their voices heard.

Introduction

Over twenty years after a democratic “wave” swept the African continent, just what difference has democracy made for the material wellbeing of African communities, particularly as it relates to hunger and malnutrition? While many African economies are growing steadily, human development remains a challenge, and many states struggle with the most basic of dilemmas, that of how to feed their populations. Resolving this dilemma is a critical challenge for African governments and citizens alike. To the extent that public action makes a difference in hunger outcomes, food security is an important issue for government accountability. How African states respond to hunger, then, is a function of how effectively governance arrangements connect the behavior of political officials to the will of the populations they serve.

Using data from the Global Hunger Index of the International Food Policy Research Institute (IFPRI), as well as data on democracy and civil liberties from a variety of extant sources, this article looks at the effect which political variables have had on the levels of food security in thirty-eight Sub-Saharan African nations since 1990. In so doing, it helps clarify

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the causal mechanisms through which democracy impacts hunger. Previous research has explored the link between democracy and a variety of other social outcomes, including hunger and famine. This work makes a number of powerful claims about the effects of democracy. This literature often treats democracy as one-dimensional, however, rather than looking at how different elements of democratic governance may be empirically linked with these outcomes. To address this lacuna, this study uses a multi-method approach to examine the effect of different measures of democratic governance on food security. First, a cross-national regression analysis is used to test hypotheses about the relative significance of several dimensions of democracy. This statistical analysis reveals that while variables measuring the procedural and institutional elements of democracy are not connected to levels of hunger in Africa, the protection of civil liberties is moderately associated with improved food security. This conclusion is then supported by a brief case study analysis of Ghana, where political liberalization in the early 1990s promoted citizen mobilization and created new possibilities for Ghanaians to hold their leaders accountable for development outcomes. Taken together, this suggests that the positive effects of democracy on food security in Africa are not a result of the opportunity for Africans to discipline non-responsive elites at the polls, but of the effectiveness of political liberalization in creating new spaces for vulnerable populations to mobilize and to make their voices heard. By lowering the barriers to collective action and opening up new forms of political participation, the protection of civil liberties creates opportunities for food-insecure communities to lobby their representatives for policies that can alleviate the sources of their vulnerability.

Democracy and Social Outcomes in Political Science

The question about whether or not democracy makes countries richer, healthier, more educated, or less hungry—in short, whether or not democracy leads to development—is as normatively important as it is empirically compelling. This question has been taken up by a number of researchers who affirm that there are positive links between democracy and desirable social outcomes (including primary education, reduced child hunger and mortality, and investment in public goods).¹ While these findings have been critiqued, they identify several distinct ways in which democracy may impact social welfare.²

Explanations for the relationship between democracy and positive social outcomes are diverse. They include the effects of formal political institutions, such as the role played by political parties competing to win votes in elections, or the inclusion of citizens into the political process.³ Additional explanations stress the political efficacy of civil society and a free press, and the importance of equality as a democratic virtue.⁴ Still others add the argument that democracy operates over time to transform citizens' expectations of what they should receive from the state, thereby encouraging increased action to promote public welfare.⁵

The multiplicity of causal pathways through which democracy may impact human development may simply signify confusion on the part of researchers. A more compelling explanation, however, is that democracy is a distinctly multidimensional concept, with different facets of the concept associated with different social or economic outcomes.⁶ While this conceptual fact is recognized by political scientists, much of the empirical work attempting to link democracy to specific social outcomes is based on an examination of the

correlation between the author's preferred measure of democracy and the outcome of interest.

The failure to compare the effects of democracy (or related phenomena like civil liberties) on an outcome is a shortcoming of this previous literature. Rather than relying on one static indicator to examine the link between politics and food security in Africa, this essay looks at three measures related to democratic governance: a continuous measure of democracy provided by the Polity IV database (Marshall and Jaggers 2010), a binary measure generated by Cheibub et al. (2010), and an indicator for civil liberties provided by Freedom House (2010). While both elections and civil liberties are linked to the overarching concept of democracy, they represent different facets of this idea. As such, they are associated with different theories about how democratic representation helps to reduce hunger in a population. The following sections explain in greater detail these theoretical arguments.

The Role of Formal Institutions

One theoretical explanation linking democracy to food security posits that democratic institutions will foster accountability for positive hunger outcomes by promoting electoral competition, thereby encouraging public action to reduce hunger and promote development. Elected officials must be responsive to the needs of a majority of constituents or face rejection at the ballot box.⁷ Electoral incentives should also rein in corruption by creating a competitive political market in which popular pressures restrain the rent-seeking behavior of the state, thereby ensuring a more efficient provision of public goods and higher levels of social welfare.⁸ The presence of competitive, well-regulated, electoral institutions represents a theoretical "safety valve" for citizens discontented with their elected leaders. Hungry, food-insecure citizens can toss out non-responsive elites and install leaders who will provide food relief, build agricultural infrastructure, provide access to markets, subsidize agricultural inputs, or control food prices.

While these reductionist models may be normatively and aesthetically appealing, they are not without theoretical and empirical problems. This is especially true when applied to the African context, where democracy is a relatively recent and weakly entrenched mode of governance.⁹ Even free and fair elections serve as loose accountability mechanisms, with considerable "agency slack" between public will and political action.¹⁰ The investments which democracies do make in the production of public goods can also be "captured" by the non-poor, and political entrepreneurs in the developing world use a variety of tools-- including denial, blame deflection, and patronage-- to skirt accountability for food security outcomes even in an ostensibly democratic system.¹¹ In such environments, public officials have incentives to produce only those public goods that are "visible" and for which they will get credit from voters at election time, to the detriment of essential but less visible public goods for which voters struggle to accurately attribute responsibility.¹²

An extension of this is that politically marginal communities, whose voices politicians can "afford" to ignore, do not receive the kinds of infrastructural investments necessary to build food secure communities.¹³ In Africa, political marginality is often linked to ethnicity, as incumbents disproportionately distribute resources to co-ethnic clients at the expense of citizens whose ethnic identities do not grant them access to the political resources necessary to demand goods or services from their representatives.¹⁴ In addition to cutting out their ethnic adversaries, rent-seeking politicians in these ethnically polarized political contexts

may be able to afford to undermine public welfare by withholding resources from even loyal clients, whose support they can count on regardless of how they mismanage public resources.

The Role of Rights and Freedoms

The apparent shortcomings of the above explanation, which focuses on the role of political competition in democratic elections, suggests a second potential mechanism linking democracy to food security. Rather than elections serving as mechanisms of accountability, political freedoms serve to open up new channels for citizen communication to policymakers and create space for new voices to enter the political sphere. Authoritarian rule effectively censors the distribution of interest groups who are permitted to mobilize, thereby shortchanging potential groups who would benefit from alternative policies.¹⁵ In contrast, democratic states which protect civil liberties create space for formerly marginalized individuals and groups to engage in the policymaking process. By forming civil society groups to lobby their representatives or by taking advantage of press freedoms to draw attention to the issues that matter to them, citizens can in turn communicate their concerns and priorities to policymakers more directly and more eloquently than by merely casting a ballot.¹⁶

Research on the importance of civil society and social capital suggests that this ability to mobilize and pressure political officials is important for ensuring accountable, responsive, and equitable governance, even in settings where democracy is nominal or non-existent.¹⁷ In particular, the concerted action of well-organized civic groups can be essential in overcoming the inertia of a recalcitrant government and asserting the rights of poor people who suffer from hunger. The effects of civic activism and social mobilization on hunger in Africa are well recognized, with Bates asserting several decades ago that Africa's post-independence governments were often biased policy against rural smallholders to appease their nascent urban populations who faced fewer barriers to collective action than their compatriots in the countryside.¹⁸ The power of citizen mobilization is perhaps best summarized by an Indian labor leader: "law is like a donkey—it goes whichever way it is pushed."¹⁹ By creating spaces for this mobilization, the presence of civil and political rights can help "push" law and policy in a direction that is more favorable for the majority of African citizens whose voices were stifled during decades of authoritarian rule.

This argument should be familiar: it has been asserted repeatedly by Amartya Sen and others who argue that a free press' ability to cover sudden hunger spikes and generate public outrage in democracies can push these regimes to avert famines.²⁰ As Sen and several authors note, however, democracies are not necessarily any better at responding to chronic malnutrition or long-term hunger.²¹ There are a variety of reasons why this may be the case, not least of which is that those groups most at risk of starvation often have the least access to and leverage over the political elites responsible for directing policy. This skepticism about the influence of poor citizens is balanced against the proponents of "rights-based" approaches to development studies which re-frame the development process as a political struggle for substantive and enforceable rights, or as a process of popular decision-making in which citizens can "claim genuine accountability" for policy outcomes.²² Seen from this perspective, poverty and hunger are symptoms of inequality and power asymmetry.²³ By creating opportunities for citizens to make demands on their leaders, the protection of civil liberties can ensure that these leaders respond to the will of the majority of their

populations. The juxtaposition of these theoretical claims justifies an inquiry into the potential mechanisms connecting democracy to food security in Africa – through elections or via civil liberties.

Democracy and Freedom in Contemporary Africa

In addition to these more general arguments about the efficacy of civil liberties in inducing accountability for hunger outcomes, there are a number of distinct features of African politics which may explain why civil liberties, and not democratic elections, would be significantly associated with decreased hunger on the continent. To begin with, competition between political parties in Africa is relatively quite weak. African elections have been accused of being racial or ethnic censuses that result in uncompetitive single-party dominant systems.²⁴ In addition, political parties can be weak and personalistic, with new parties forming and old ones folding each election cycle as political alliances between elites shift. In spite of the perceived weakness of elections, however (a conclusion supported by this analysis), accountability between citizens and political officials is not impossible. Personal links between citizens and politicians are possible even in environments where inter-party democratic competition is non-existent, as in Kenya's *harambee* system under Kenyatta.²⁵ While these citizen-elite linkages are often clientelist in nature – which may ultimately be detrimental to the provision of the kinds of public goods that help improve nutrition outcomes and forestall hunger – the existence of such relationships may nonetheless promote a certain kind of accountability between people and their representatives.²⁶ While the protection of civil liberties does not necessarily ensure that political patrons will respond to the interests or needs of their “clients” in these relationships, it does at least create the possibility that politicians will hear from a more diverse cross-section of their constituency.

Data and Methods

The sets of theories highlighted above linking democracy to development outcomes provide a point of departure for empirical inquiry. They identify two distinct pathways through which attributes of democracy may be linked to food security, either by promoting public accountability through formal institutions, or by facilitating the integration of previously marginalized interests into the political process.

In order to evaluate the hypotheses that African states with higher levels of democracy and greater respect for civil liberties have higher levels of food security, I run a series of Ordinary Least Squares (OLS) regressions for each of the key independent variables described above. The results of these analyses are presented in Table 1 (see below). The unit of analysis for these regressions is the country-year, with the 1990, 1996, 2001, and 2011 estimates for the Global Hunger Index (discussed below) serving as the dependent variable.²⁷ The analyses include data for thirty-eight African countries, with 148 total observations for these models (113 observations for models using a lagged dependent variable). The regression estimates use country-specific fixed effects and incorporate temporal “dummy” variables to account for unobserved heterogeneity between countries and across time. These are extremely restrictive models. They help ensure, for example, that we do not falsely assert the importance of democracy (or any other variables) to food security when in fact the “true” link between the two variables is conditional upon an unobserved third measure that is specific to a given country or a given year.²⁸ As a robustness check of these results, I also run a series of similar regressions incorporating a

lagged dependent variable. This technique controls for the effect that the level of hunger and food security in a previous period may have on the level observed in the following period. Finally, I disaggregate the GHI measure to examine how the protection of civil liberties affects each of its component measures.

Issues in the Measurement of Food Security: Establishing a Dependent Variable

Food security is not particularly challenging to define: an oft-cited description comes from the 1996 World Food Summit Plan of Action, which states that “[f]ood security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.”²⁹ Measuring food security is more difficult, however. As it is most often articulated, the concept consists of three component factors: availability (the degree to which food is present in a community), access (an individual’s ability to acquire the food), and utilization (in part, the ability to absorb and process the nutrients).³⁰ As a result of the multiple facets and determinants of food security, no single measure of food security is suitable for an authoritative, reliable, cross-country comparison.³¹ Research measuring food security has been conducted by development scholars and practitioners, who focus on hunger and nutritional stability as it is experienced at the household or individual level. Such work can rely on multiple methods—including household surveys, observed physical outcomes (such as the Body-Mass Index, a weight-to-height ratio), or consultative methods such as participatory rapid appraisal (PRA)—for establishing the overall food situation of the household, community, or region being studied.³² For cross-national research, however, a different, more widely applicable indicator is needed, one that can be used to assess the effects that democracy and rights-protection may have on nutritional outcomes. This measure should reflect the multi-dimensional nature of food security as a concept while maintaining its applicability to a wide range of contexts.

The Global Hunger Index (GHI) employed by the International Food Policy Research Institute (IFPRI) is a useful measure in this regard. The GHI combines data from United Nations agencies on undernourishment (the percentage of the population consuming insufficient calories), the percentage of children who are underweight (low weight-for-age, known as “wasting”), and on child mortality (percentage of children who die before their fifth birthday).³³ The index ranges from zero to one hundred, with a score of zero reflecting absolutely no hunger and one hundred reflecting total disaster (the entire population is undernourished, all children are underweight, and all children die before their fifth birthday); each component is weighted equally.³⁴ The index thus contains information pertaining to food availability, access, and utilization amongst the population of a country. When people cannot get enough to eat, this is a reflection of a lack of availability or access; when their children are unable to grow, this is a reflection of a lack of access or utilization; when children die from hunger this is often a byproduct of their inability to fight off disease, a key function of effectively utilized nutrition. For the purposes of this cross-national analysis, GHI scores thus serve as adequate measures of the key dimensions of food security.

The utility of this measure is further enhanced due to the index’s temporal breadth. The 2011 GHI contains estimates for 1990, 1996, 2001, and 2011, facilitating the evaluation of a country’s progress over time. In this respect, the measure is more useful than indicators such as the Hunger and Nutrition Commitment Index (HANCI) which measures a country’s

commitment to combating malnutrition.³⁵ While HANCI is extraordinarily detailed, the index is a better reflection of the political will to fight hunger than it is as a measure for hunger itself. In addition, the index is available for fewer countries than is the GHI and is not available as panel data, curtailing the scope of the analysis. The multidimensionality of the GHI in the present analysis also improves on Jenkins et al.'s (2007) discussion of food security in Africa, which looks exclusively at "wasting" (low-weight for age) as a proxy for food security, and is conceptually distinct from cross-national research on democracy and famine prevention.³⁶

Democracy and Freedom: Independent Variables

While measuring food security can be challenging, evaluating democracy can be even more difficult. A recent effort to compile a multi-dimensional index of democracy has catalogued no less than six different conceptualizations of this term present in political science literature.³⁷ For the purposes of this study, three separate indicators of democracy that measure different facets are needed: two which look at democracy as a way of ensuring political competition through open elections, and a third measure of political freedom which looks at the extent to which countries protect key civil liberties.

For the first of these indicators, I use the widely-used *polity2* score in the Polity IV dataset, which emphasizes the presence of competitive electoral institutions and reflects the degree to which leaders are chosen through an open, competitive process.³⁸ When measures of autocracy and democracy are combined, they constitute a twenty-one point scale ranging from -10 (a fully institutionalized authoritarian regime) to +10 (a fully open and democratic regime).³⁹

A second measure for electoral democracy is the binary indicator produced by Cheibub, Gandhi, and Vreeland (CGV), which updates well-known work by Alvarez et al (1996).⁴⁰ This indicator takes a value of 0 for non-democracies and 1 for democracies. In order to be considered a democracy by the authors, a country's chief executive must be chosen via elections or by an elected body (i.e., a parliamentary system), have a popularly elected legislature, feature competition between political parties, and experience an alteration in power between these parties. The combination of these of these features results in a high hurdle for regimes to clear in order to be considered democratic, but is also limited to a handful of institutions. The Polity and CGV measures provide different levels of detail and precision regarding the competitiveness of African regimes, with the Polity score offering a more nuanced measure of political competitiveness while the CGV indicator focuses even more narrowly on elections. Although distinct, both variables can make a claim to being reliable measures of the procedural minimalist definition of democracy in which leaders acquire power "by means of a competitive struggle for the people's vote."⁴¹ This definition focuses on the method of selecting political leadership—elections—and little else. This 'thin' notion of democracy has been widely accepted within political science.⁴²

In contrast to the procedural minimum definition, the organization Freedom House ranks countries on the presence of civil liberties, an element of democracy, which reflects its participatory character. Freedom House ranks countries from a measure of one (indicating that the country respects such liberties) to seven (indicating that a country denies citizens these liberties). These rankings are determined by a battery of experts who evaluate countries on a checklist of criteria that includes freedom of expression, associational rights, the rule of law, and individual autonomy.⁴³ The Freedom House rankings have been

criticized for inter-temporal inconsistency, conceptual ambiguity, and for their opaque coding rules.⁴⁴ However, in spite of the problems with the Freedom House data, it is readily available, complete, and useful. In the present analysis, I use an inverted measure of the civil liberties scale because it is more intuitive to interpret (so that 1 reflects a country that restricts civil liberties and 7 reflects an open regime) as a foil to the minimalist Polity IV and CGV definitions. The freedoms measured in the Freedom House variable are not in themselves constitutive of democracy, but they are consonant with its application. The use of these three variables represents an opportunity to examine the effects of different components of democracy on food security outcomes, suggesting different mechanisms that may be at work in linking politics and food security.

Control Variables

Several control variables are used in each model. In addition to the measures of democracy and civil liberties discussed above, these control variables are also expected to influence food security outcomes. Including them in these statistical models thus helps isolate the effects which democracy and freedom may have on food security. Economic measures of income and poverty should be particularly influential. Higher rates of extreme poverty, as measured by the percentage of the population living on less than \$1.25 US per day, should thus be associated with increased hunger.⁴⁵ Additionally, we should expect that poor countries will have a much more challenging time feeding their citizens than will wealthy ones. In order to account for this potential relationship, these models include a measure for GDP per capita.⁴⁶ Additionally, data on the percent of a country's GDP that comes from international trade and the percentage of gross national income used to service international debt are included in these models. Studies examining the effects of globalization on social spending and outcomes have found both of these measures to be negatively associated with public welfare.⁴⁷ Given the high amounts of public debt held by many African states, the inclusion of this variable should be particularly important.

In addition to these measures of key economic variables, these analyses control for the effects of armed conflict as a potential determinant of malnutrition, using the log of the number of deaths from violent conflict in that country in that year. This is theoretically important given that warfare can undermine communities' abilities to meet their food needs and divert important resources to destructive conflict.⁴⁸

Finally, the models include the percentage of the total population living in urban areas. The inclusion of this measure offers the potential for a rough test of Bates' famous "urban bias" explanation of underdevelopment in Africa. According to Bates, as a way to stave off unrest, post-colonial African governments subsidized the consumption of their more-easily mobilized urban minorities at the expense of their rural majorities.⁴⁹

Results

The results of these statistical models are largely supportive of the link between the protection of civil liberties and food security and do very little to bear out the theory suggesting that democratic elections promote accountability for hunger outcomes. In other words, it appears that it is democracy's capacity for including marginalized groups, rather than the effects of electoral competition, which are influential in determining food security. Neither The Polity IV measure of democracy nor the CGV indicator, measures that focus narrowly on the openness and fairness of the political system, appear to be a significant

predictor of food security in this sample. In none of the models in Tables 1 and 2 do either of these measures approach statistical significance.

TABLE 1: EFFECTS OF DEMOCRACY AND CIVIL LIBERTIES ON GHI

Variable description	Model 1	Model 2	Model 3	Model 4	Model 5
Civil Liberties	-0.950** (0.279)			-1.273** (0.363)	-0.999** (0.316)
Polity IV democracy		-0.071 (0.065)		0.111 (0.081)	
CGV democracy			-0.984 (0.745)		0.277 (0.816)
log of # of persons killed in armed conflict per year	0.245+ (0.132)	0.252+ (0.138)	0.237+ (0.138)	0.238+ (0.131)	0.239+ (0.133)
Urban population (% of total)	-0.190+ (0.099)	-0.190+ (0.105)	-0.187+ (0.102)	-0.170+ (0.099)	-0.191+ (0.099)
Total debt service (% of GNI)	0.113 (0.069)	0.089 (0.072)	0.086 (0.071)	0.108 (0.069)	0.114 (0.069)
Trade (% of GDP)	0.006 (0.007)	0.005 (0.008)	0.007 (0.007)	0.006 (0.007)	0.005 (0.007)
Log of GDP/capita, constant 2000 USD	-4.243* (2.005)	-5.388* (2.073)	-5.909** (2.060)	-3.960+ (2.007)	-4.071+ (2.076)
% of population below \$1.25/day	0.064* (0.031)	0.063+ (0.034)	0.051 (0.033)	0.057+ (0.032)	0.064* (0.032)
year (1990)	0.198 (1.189)	0.886 (1.375)	1.079 (1.200)	0.952 (1.303)	0.247 (1.203)
year (1996)	0.712 (0.931)	1.290 (1.375)	1.443 (0.933)	0.936 (0.941)	0.720 (0.935)
year (2001)	.331 (0.759)	0.516 (0.826)	0.629 (0.790)	0.617 (0.784)	0.368 (0.770)
R ² (overall)	0.606	0.565	0.566	0.633	0.605
**p<0.01, * p<.05, † p<0.1,	N=148, 38 countries				

When country-specific features are accounted for, these measures of democracy are irrelevant to the eradication of hunger. For every success story like Ghana (which experienced a 12.3 point decrease in its GHI score from 1990-2011 along with a 15 point increase in its Polity IV score) or Mali (an 8.2 point decrease in GHI and a 14 point increase in the Polity IV measure) there are countries like Kenya (only a 2 point decrease in GHI in spite of a 15 point increase on the Polity IV scale) and Zambia (0.7 point GHI decrease and 16 point Polity IV increase). Despite undergoing similar transitions from single-party authoritarian regimes to multi-party democratic ones, in these latter countries, the presence of open and competitive elections did little to alleviate hunger. These findings reflect Drèze and Sen's (1989) observation that endemic hunger persists in democracies, as well as the skepticism of Ross and others as to the practical implications of democracy for the poor.⁵⁰

In fact, when respect for civil liberties is taken into account in these statistical models, the sign of the coefficient for the Polity and CGV measures is in the "wrong" direction – associating electoral democracy with increased hunger. It would be inaccurate to condemn electoral democracy on the basis of these results, however. Rather than demonstrating that the electoral effects of democracy are actively harmful to food security, the models in Tables 1 and 2 indicate that electoral competition through democratic elections has had no effect on food security in Sub-Saharan Africa.

In contrast to the narrowly procedural measure of democracy, The Freedom House measure for civil liberties does appear to be positively associated with increased food security, at least in the models described in Table 1. Countries with higher civil liberties scores tend to have lower levels of hunger, as measured by the GHI. Model 1, which measures the effect of civil liberties without including the CGV or Polity IV indicators, estimates that one point of improvement in civil liberties is associated with a 0.95 point reduction in the hunger index score. In Model 4, which includes both the Freedom House score and the (non-significant) measure from the Polity IV dataset, the coefficient on the civil liberties variable is -1.273. On the surface, these may seem like small changes, but they are both statistically and substantively meaningful. A two point decrease in GHI, for example, equates to a drop of two percentage points in the proportion of the population who are undernourished, a drop of two percent in the proportion of children who are underweight, and a drop of two percent in the proportion of children who die before they turn five.

Especially important in these models is that civil liberties have a significant effect on food security outcomes even when economic features (such as income, debt, and the extent of poverty) are taken into consideration. Although governments in Africa that are democracies and respect civil liberties also tend to be wealthier, this fact alone cannot explain the positive relationship between civil liberties and food security that is present in the data. Politics makes a difference for an African nation's ability to feed its citizens.

Based on the data in this sample, it thus appears that freedom of expression and association, and respect for human rights (features of civil liberties measured by the Freedom House indicator) are meaningfully associated with improved food security and decreased hunger. These features are critical in the process of forming political demands and transmitting them to policy makers. This finding helps clarify exactly why democracy matters for food security. It reveals that the causal pathway through which democracy impacts food security likely has more to do with the freedom of groups to organize and communicate demands to their leaders than the right to select between competing sets of elite politicians.

This does not indicate that formal democracy is unimportant. The Polity IV variable is highly correlated with the Freedom House civil liberties variable, indicating that there is a tight link between these two measures. In other words, there are very few (if any) African states which extend civil liberties to their citizens but restrict political competition in a formal sense. Potential exceptions to this include Burkina Faso, which receives a "partly free" civil liberties score (4 for 2001, 3 for 2010) from Freedom House while scoring a 0 (between -10 and +10) on the *polity2* scale; and Tanzania, which received the same civil liberties scores for 2001 and 2010 in spite of being rated as undemocratic in the Polity IV dataset (-1 on the *polity2* variable in 2001 and 2010). Seen in this light, the positive relationship between civil liberties and food security suggests that the causal pathway through which democracy impacts food security has to do with the effect civil liberties have on lowering the barriers to collective action by previously marginalized groups. Democracy thus impacts food security, not through elections, but by improving the political environment and enhancing the ability of marginalized groups to enter the policy process and demand favorable outcomes.

While the results of the regressions in Table 1 are encouraging for champions of democracy and freedom, the data presented in Table 2 demonstrate the need for caution in

TABLE 2: EFFECTS OF DEMOCRACY AND CIVIL LIBERTIES ON GHI (LAGGED DV)

Variable description	Model 6	Model 7	Model 8	Model 9	Model 10
Civil Liberties	-0.423 (0.340)			-0.651 (0.390)	-0.436 (0.367)
Polity IV democracy		0.033 (0.082)		0.110 (0.094)	
CGV democracy			-0.271 (0.765)		0.082 (0.818)
log of # of persons killed in armed conflict per year	0.033 (0.130)	0.048 (0.132)	0.041 (0.131)	0.047 (0.130)	0.033 (0.131)
Urban population (% of total)	-0.274** (0.097)	-0.332** (0.094)	-0.315** (0.092)	-0.284** (0.097)	-0.275** (0.098)
Total debt service (% of GNI)	0.164* (0.074)	0.154* (0.076)	0.162* (0.075)	0.151* (0.075)	0.163* (0.075)
Trade (% of GDP)	-0.006 (0.007)	-0.008 (0.008)	-0.008 (0.008)	-0.005 (0.008)	-0.006 (0.008)
Log of GDP/capita, constant 2000 USD	-4.270* (2.016)	-4.816* (2.030)	-4.726* (2.010)	-4.449* (2.016)	-4.247* (2.044)
% of population below \$1.25/day	0.051+ (0.029)	0.051+ (0.030)	0.052+ (0.030)	0.050+ (0.029)	0.051+ (0.030)
lagged GHI	0.245** (0.088)	0.235* (0.089)	0.237* (0.089)	0.238** (0.088)	0.246** (0.089)
R ² (overall)	0.676	0.633	0.643	0.676	0.676
**p<0.01, * p<.05, † p<0.1,			N=113, 38 countries		

interpreting these results. The models here incorporate a lagged dependent variable to control for the extent to which hunger in one period predicts the degree of hunger the following period. In none of the models in Table 2 is the civil liberties measure significant, and in each of them the magnitude of the coefficients for the civil liberties variable is about half of those in Table 1. While the unbalanced nature of the panel data in this sample makes it difficult to interpret the effects of the lagged dependent variable, these results warrant further investigation. In this case, it appears that the effect of including the lagged term in the models is equivalent to estimating the models in Table 1 and simply excluding the data for 1990 (models not shown here). It is the loss of these data points, rather than the incorporation of a lagged term, that best explains the difference between Tables 1 and 2. In substantive terms, this means that there may be a strong relationship between civil liberties and food security in the year 1990, which helps explain why the civil liberties term is significant in several of these models.

All models in Table 3 incorporate an interaction term for civil liberties and the year 1990, testing whether the apparent effect of civil liberties on food security can be attributed to a particularly strong link between these two measures in the late 1980s and early 1990s. This is indeed the case in the full model presented in Table 3, where the interaction term is significant, and the coefficient is much larger than in any of the previous regression models. A one point increase on the civil liberties scale in 1990 is associated with approximately a 1.7 point decrease in GHI (almost double the size of the coefficient in Model 1). This suggests that there is an especially strong link between GHI and civil liberties in the early part of the observed period. This may reflect that notion that democracy is a “stock” rather than “level” concept, with the effects of expanded freedoms taking time to reveal themselves.⁵¹ If this is

the case, then the effects of expanded freedoms across Africa may in the past two decades not yet have begun to ameliorate the effects of hunger. Alternatively, it is possible that there was something especially pernicious about authoritarianism in Sub-Saharan Africa in the late 1980s and early 1990s that adversely affected food security

TABLE 3: YEAR AND CIVIL LIBERTIES INTERACTION

Variable description	GHI	under-nourished	under-weight	under 5 mortality
Civil Liberties	-0.348 (0.310)	0.302 (0.655)	-0.754 ⁺ (0.416)	-0.615* (0.250)
log of # of persons killed in armed conflict per year	0.206 (0.125)	0.251 (0.264)	0.189 (0.168)	0.132 (0.101)
Urban population (% of total)	-0.252** (-0.252)	-0.483* (0.200)	-0.229 ⁺ (0.127)	-0.048 (0.076)
Total debt service (% of GNI)	0.146* (0.066)	0.300* (0.139)	0.145 (0.088)	-0.007 (0.053)
Trade (% of GDP)	-0.003 (0.007)	-0.003 (0.015)	-0.003 (0.010)	-0.002 (0.006)
Log of GDP/capita, constant 2000 USD	-4.435* (1.893)	-7.736 ⁺ (3.997)	-6.894** (2.539)	1.081 (1.524)
% of population below \$1.25/day	0.060* (0.030)	0.114 ⁺ (0.063)	0.018 (0.040)	0.035 (0.024)
Civil liberties * year (1990)	-1.669** (0.457)	-4.322** (0.984)	-0.463 (0.625)	0.097 (0.375)
year (1990)	4.652** (1.657)	9.616** (3.547)	0.630 (2.253)	2.751* (1.352)
year (1996)	0.060 (0.879)	-0.409 (1.856)	0.070 (1.179)	2.787** (0.707)
year (2001)	0.369 (0.716)	-1.299 (1.514)	0.583 (0.962)	1.902** (0.577)
R ² (overall)	0.570	0.309	0.455	0.169
**p<0.01, * p<.05, + p<0.1,	N=148	N=147	N=147	N=147

Because GHI is a composite indicator, it is also possible to examine the effect of civil liberties on each of its component parts. The additional models in Table 3 do just that. They demonstrate that the interaction effect between the 1990 year and civil liberties variables on food security is largely due to the relationship between these freedoms and levels of undernourishment. Every point increase on the civil liberties scale in 1990 was associated with a 4 percent decrease in the proportion of a country's population that lacked sufficient caloric intake. There was thus an especially meaningful link between civil liberties and undernourishment in the early 1990s as African states were just beginning to transition to democracy. This interactive effect is not present for the models in which wasting and under five mortality serve as dependent variables. The civil liberties score is at least marginally significant in both of these models, with no interaction between the year term and the Freedom House measure. This suggests that the protection of civil liberties has an independent effect on wasting and child mortality that is constant throughout the observed period, unlike the effect of these freedoms on undernourishment, which is most profound in the first year included in these models.

Viewed in their entirety, the results of this statistical analysis indicate that democratic gains have the potential to reduce hunger and food security, and specify a causal pathway

through which this link operates. These models are largely consistent with the argument that democratic freedoms—in particular civil liberties like the freedom to organize in groups, criticize the government, and be protected by law from arbitrary retaliation—give communities the tools with which to hold leaders accountable for meeting their basic needs. The fact that the procedurally minimalist measures of democracy are not significantly associated with decreases in hunger seems to indicate that the route to food security and healthy communities does not proceed through elite competition for the popular vote. Rather, food security appears to be at least partially dependent on the ability of marginalized actors to organize and make their voices heard to their leaders. The point here is not that autocrats are incapable of ensuring that their populations have sustainable access to adequate nutrition, but that they have no incentive to do so. By contrast, regimes which grant communities the right to organize, publicize government failures, and protest corruption are more capable of holding their leaders accountable and ensuring desirable policy outcomes. As such, we see higher levels of hunger in countries which curtail these liberties, thus effectively denying citizens the opportunity to make their voices heard – than in those which protect the rights of citizens to organize and make their will known to their leaders.

Freedom and Food Security in Ghana

One African state which has been singled out for achieving notable reductions in hunger during the period covered in this sample is Ghana. As Ghana has democratized and liberalized politically, improving its Polity IV and Freedom House Civil Liberties scores, it has also experienced a dramatic reduction in hunger, decreasing its GHI score by 12.3 points from 1990 to 2011 (dropping from 21 to 8.7). This is the largest decrease of any of the thirty-eight African countries included in the analysis above, and one of the largest of any country in the developing world.⁵² All three of the composite components of GHI (percentage of the population that is undernourished, percentage of children under the age of five who have low weight to age ratios, and the under-five mortality rate) showed improvements in Ghana. The factor that drove most of this change, however, is the measurement most directly related to food; the percentage of Ghanaians who did not receive sufficient caloric intake decreased from 27 percent in the 1990 GHI to 5 percent in the 2011 score.

Can Ghana's dramatic success in reducing hunger be attributed to improvements in governance resulting from competitive elections or civil liberties? While it is difficult to demonstrate a clear causal pathway leading from political openness to improved food security, it does appear that political liberalization has played a role in this process. Civil liberties are important in ensuring that Ghanaians are able to hold their leaders accountable for desirable social policies and development outcomes.

The timing of Ghana's improvement in food security certainly coincides with the process of democratization and political opening in the country. Following years of authoritarian rule by the Provisional National Defense Council (PNDC) of Flight Lieutenant Jerry Rawlings, in the 1990s the Ghanaian regime agreed to put in place reforms that would open up political space to new actors. Multiparty elections were held in December 1992, which Rawlings won easily, with the main opposition boycotting the polls. Their participation in subsequent elections ensured the incorporation of new parties in the legislature.⁵³ Crucially, this period also witnessed an opening of political space into which civil society groups mobilized. During the 1990s new, independent media outlets

proliferated, as did community organizations through which Ghanaians could become politically active.⁵⁴

While the expansion of civil liberties did not result in a wholesale transformation of Ghanaian governance, these rights are a fundamental feature of Ghana's democracy. When asked what democracy means to them, a plurality of Ghanaians describe democracy in deliberative terms: as a political system which allows them to speak publicly about government, put forward their own views, and have a say in how they are ruled.⁵⁵ In Akan, democracy is popularly described as "you say some and let me say some," emphasizing the importance of free speech and dialog in this system of government.⁵⁶

The consequences of this liberalization have been an expansion of opportunities for citizens to influence the policymaking process, particularly with regard to the kinds of social policies that are critical to ensuring food security. Avenues for this influence have included the ability to initiate private endeavors that serve as an inspiration for public policy, taking advantage of freedom of speech to bring forward new agendas, and using the press to generate debate on these issues.⁵⁷ In addition to stimulating policy change, the presence of local voluntary organizations in Ghana can promote the amicable resolution of community problems by giving members new opportunities to "practice democracy" and to develop the capacity to engage in cooperation and local problem solving.⁵⁸ While Lindberg argues that these organizations are not necessarily effective in holding politicians accountable, he observes that even demands for patronage and clientelism from citizens and party activists can push leaders to generate more collective goods for their constituents and to lobby more strongly for the benefit of their communities, demands that local traditional chiefs forcefully articulate.⁵⁹

The efficacy of this expansion of civil liberties may have also been enhanced by the decentralization reforms implemented in Ghana in the late 1980s. Under both domestic and international pressure, Rawlings' Provisional National Defense Council (PNDC) created a local district assembly composed of both popularly elected and appointed members, and overseen by a district chief executive (DCE) appointed by the central government.⁶⁰ With these reforms the government sought to decentralize social service management, as well as to buttress or to extend existing informal systems of social welfare.⁶¹ While these changes were not miraculous, since local government clientelist imperatives rather than public opinion or norms of bureaucratic rationality often drive allocations of public goods, they are reflected in how Ghanaians perceive and interact with state authority.⁶² MacLean notes that unlike in neighboring Côte D'Ivoire, residents in Ghana are more likely to highlight local (rather than national) government leaders as influential in their village, and to describe their rights as citizens in terms of local public goods like social services or rural infrastructure, rather than as individual benefits they receive from the state.⁶³ Investment in these public goods can be critical for improving a community's food security.

The participatory nature of democratic governance is reflected in several of the country's development plans. During the 2000s the Ghanaian government developed the Food and Agriculture Sector Development Policy (FASDEP) plans in 2002 and 2007 which focused on policy issues most relevant for the majority of Ghana's rural smallholders. These plans accompanied and supported the country's Growth and Poverty Reduction Strategies (GPRS) I and II. While authoritarian governments in Ghana have long histories of laying out ambitious goals, these more recent policy planning initiatives incorporated substantial public consultation and participation.⁶⁴ Perhaps as a result of these consultations, democratic governments in Ghana have largely rolled back the distortionary policies (i.e. import

restrictions and artificially depressed prices for export crops) that disadvantaged many Ghanaian consumers and small farmers.⁶⁵ Prices for cocoa farmers (the country's largest export crop) almost tripled during the 2000s and support for non-traditional agricultural exports increased as well, alleviating the poverty of many farmers in the Ghanaian countryside.⁶⁶

John Kuofor, president of Ghana from 2001-2008, personally ascribes a great deal of importance to civil liberties in promoting food security in Ghana by encouraging citizen participation and ensuring government accountability. Kuofor has argued that political freedoms were crucial to the food security achievements he claims for his administration. He notes that improving the prices given to Ghana's cocoa producers, supporting rural infrastructure, and creating programs to feed schoolchildren (a policy innovation which significantly boosted enrollment) would not have been possible without rights to due process and free speech.⁶⁷ "Because the government insisted on due process, people felt free to express themselves without having to look over their shoulders."⁶⁸

This image of local civic activity and consultative governance is helpful in understanding how citizens can hold policy makers accountable in Ghana and elsewhere. These pathways to accountability are not always effective, nor do they always run through NGOs or "civil society." Nonetheless these diverse patterns of social mobilization do testify to the importance of civil liberties in allowing citizens the space to raise issues with their leaders, publicize these in independent media, and to win political support for their proposals. This freedom has been an important part of Ghana's democracy during its Fourth Republic, an era in which policy change and economic growth have substantially curbed hunger and malnutrition in the country.

Discussion and Conclusion

The findings from the statistical analysis as well as the Ghanaian case study suggest at least two directions for future research, both of which necessarily entail linking political processes to nutritional outcomes. The first of these research agendas involves attempting to isolate the exact policy determinants of food security. In other words, what governmental policies influence poor peoples' abilities to provide for themselves? What are the causal mechanisms linking effective governance with a reduction in hunger?

A second research agenda shifts the level of analysis from the national level to the community level. National-level measures of democracy, or of political rights and civil liberties, mask sub-national variation in the nature of governance in Africa and elsewhere.⁶⁹ In the future, investigating the political determinants of food security must necessarily involve disaggregating the political environment (i.e. levels of democracy or political freedoms) from the actual ability of aggrieved social groups to mobilize. From a rights-based perspective, this will entail linking the right to food to other rights to well-being (e.g. education, health, etc.), and determining how different patterns of citizen mobilization for any one of these rights impacts the achievement of each of the others.⁷⁰ Future research should therefore examine how citizens join together to access the entitlements necessary to meet their basic food needs.⁷¹ We need to understand how citizens form and make claims on the central state. This is a process which, although certainly generalizable, will also reflect the social structure, economic history, and political environment of the arena in which these claims emerge. Such an approach would ideally be focused at the sub-national level, but it

would do well to go beyond ideographic case study work to understand the mobilization of groups from different sectors of the population.

There can be no question more relevant for a nation than how to ensure that its citizens are fed. This is doubly true for African states that are struggling to overcome decades of economic stagnation and poor records of human development. Proponents of democracy and rights-based development argue that this goal can only be realized when government is accountable to, and informed by, its most vulnerable citizens. The analysis offered in this essay supports this point of view. While tentative, these findings are important for understanding the potential of democratic arrangements for connecting local communities with the state. They suggest that improvements in the capacity of marginalized groups to mobilize politically and to push forward their demands is an important feature in holding politicians responsible for hunger outcomes. Future work on the political determinants of food security must examine the processes that lead to food secure outcomes, either by specifying the types of policies which lead to adequate nutrition, or by specifying the pathways from citizen mobilization to effective food security. While civil liberties alone do not determine hunger outcomes in Africa, the link between these hard-won freedoms and improved food security justifies further research into the processes by which groups form and make demands on the state for policy choices that reduce hunger.

Notes

- 1 Jenkins and Scanlan 2001; Jenkins et al. 2007; Stasavage 2005; Lake and Baum 2001; Baum and Lake 2003; Gerring et al. 2012.
- 2 A handful of findings disputing such a link includes: Ross 2006; Currie 1998; Mulligan, et al. 2004; Mani and Mukand 2007.
- 3 See Lake and Baum 2001; Baum and Lake 2003; Rudra and Haggard 2005
- 4 Sen 1999a, p. 178; Drèze and Sen 1989, pp. 214, 278; Gerring et al. 2012.
- 5 McGuire 2010; also Gerring et al. 2012;
- 6 See Coppedge, et al. 2011.
- 7 E.g., Jenkins et al. 2007; Stasavage 2005; Carbone 2011; Baum and Lake 2003 for empirical studies of this mechanism at work regarding social policy in the developing world.
- 8 Lake and Baum 2001.
- 9 van de Walle 2003.
- 10 Baum and Lake 2003, p. 337.
- 11 Ross 2006, p. 870; Currie 1998.
- 12 Mani and Mukand 2007.
- 13 Harding and Wantchekon 2012, Kramon and Posner 2013.
- 14 Harding and Wantchekon 2012.
- 15 Rudra and Haggard 2005, p. 1018.
- 16 Verba et al. 1995.
- 17 Putnam 1993, Tsai 2007, Tripp et al. 2009.
- 18 Bates 1981.
- 19 Quoted in Joshi 2010, p. 626. See also de Waal's (2000) discussion of "political contracts" against famine.
- 20 Sen 1999b.

- 21 Drèze and Sen 1989, Banik 2011
- 22 Antunes and Romano 2005, pp. 131-143; Cornwall and Nyamu-Musembi 2004, pp. 1424, 1432.
- 23 Gready and Ensor 2005, p. 25.
- 24 Ferree 2006, van de Walle 2003. For a counter-argument see Lindberg 2006.
- 25 Widner 1992
- 26 cf. Wantchekon 2003.
- 27 So, for example Kenya-1990, Kenya-1996, and Kenya-2001 would all be recorded as separate observations. While all of the GHI scores are estimates for the year in question, annual statistics are not available for every country for each year and the estimates often rely on data for the years surrounding the year used in the analysis. Estimates for 1990 rely on data collected from 1988-1992, estimates for 1996 rely on data from 1994-1998, estimates for 2001 rely on data from 1999-2003, and estimates for 2011 use data for 2005-2009 (see von Grebmer et al. 2011, pp. 48-50).
- 28 Say, for example, that countries with higher average annual levels of rainfall are both more likely to democratize and to have lower levels of hunger.
- 29 Food and Agriculture Organization (FAO) of the United Nations 1996.
- 30 Chung et al. 1997, p. 5; Sen 1981, pp. 45-47; Kent 2005, pp. 12-15.
- 31 Chung et al. 1997, p. 8.
- 32 Valente 2009, pp. 1540-41, 44; Mallick and Rafi 2010, p. 596; del Ninno and Dorosh 2003; Chung et al. 1997, pp. 18.
- 33 von Grebmer et al. 2011, pp. 7-9, 48.
- 34 In practice this never occurs. The country with the highest GHI score for 2011 is the Democratic Republic of the Congo (DRC), at 39.0, in which an estimated 69 percent of the population is undernourished, 28.2 percent of children are underweight, and 19.9 percent of children die before they turn five.
- 35 te Lintelo et al. 2013.
- 36 Jekins et al. 2007; Rubin 2009, 2011.
- 37 Coppedge et al. 2011, pp. 253-254.
- 38 The indicator accounts for the competitiveness of executive recruitment, openness of executive recruitment, constraints on the chief executive, competitiveness of political participation, and in the case of autocracy, regulation of participation (Marshall et al. 2010, pp. 14-17).
- 39 The polity2 variable is an adaptation of the polity variable, which features uninterpretable codes for "foreign interruption" (-66), anarchic "interregnum" (-77), and political "transition" (-88). The -66 code is treated as missing in polity2, the -77 is treated as 0 (a 'neutral' score), and political transitions, -88, are "prorated across the span of the transition." (Marshall et al. 2010, p. 17).
- 40 Cheibub et al. 2010, Alvarez et al. 1996.
- 41 Schumpeter 1950, p. 269.
- 42 see Alvarez et al. 1996 as well as Schmitter and Karl 1991, and Collier and Levitsky 1997. For a counter-argument, see Morlino 2004.
- 43 Freedom House 2010.
- 44 Giannone 2010; Cheibub et al. 2010.

- 45 The \$1.25/day poverty measure variable is calculated by the World Bank's Povcalnet software (Zhao et al. 2012; accessed June 22, 2012).
- 46 The models use the natural log of GDP/capita, in constant year 2000 US dollars, as a predictor of aggregate food security, since each additional dollar of income should have diminishing returns for the food security of individual households and communities. For example, consider that an extra thirty dollars of income per month will make a much larger difference in the life of someone in extreme poverty, while it will make much less of a difference in the life of a wealthy individual with a monthly income of several thousand dollars.
- 47 Rudra 2011; Rudra and Haggard 2005.
- 48 de Waal 2000, pp. 18-21; Jenkins et al. 2007.
- 49 Bates 1981
- 50 Ross 2006. See also Currie 1998, Banik 2011
- 51 Gerring et al. 2012.
- 52 von Grebmer et al. 2011, p. 13.
- 53 Bratton et al. 2001, p. 239; Lindberg 2010, p. 122
- 54 Bratton et al. 2001, p. 233.
- 55 Ibid.
- 56 Ibid.
- 57 Carbone 2011.
- 58 Morris MacLean 2004, p. 599.
- 59 Lindberg 2010: 124, pp. 127-29.
- 60 Horowitz and Palaniswamy 2010.
- 61 MacLean 2010.
- 62 Horowitz and Palaniswamy 2010.
- 63 MacLean 2010.
- 64 FASDEP II, pp. 1-2; Breisinger et al. 2011, p. 98.
- 65 Breisinger et al. 2011.
- 66 FASDEP II, pp. 16, 36.
- 67 Kuofor 2011.
- 68 Kuofor 2011.
- 69 See Boone 2003.
- 70 Drèze 2004.
- 71 Maxwell 1999.

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