

# Does Economic Deprivation Produce Xenophobia? Evidence from South Africa

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July 19, 2015

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# Does Economic Deprivation Produce Xenophobia? Evidence from South Africa

This paper returns to the classic question of whether economic deprivation produces hostility toward immigrants. Evidence for this hypothesis is surprisingly mixed, perhaps because the conceptualization of deprivation is similarly inconsistent. Moreover, almost all studies used developed world samples, where natives and immigrants are cultural distinct, thus potentially confounding any observed effect of economic deprivation with cultural threat. Instead, this paper examines Afrobarometer survey data on black South Africans' hostility toward African immigrants, thus examining intergroup tensions where natives and immigrants share ethnic, linguistic and religious backgrounds. By combining survey data with census indicators, we obtain a rich set of data on deprivation, including egocentric and sociotropic measures of both objective conditions and subjective evaluations. The evidence shows that deprivation does produce xenophobia. Individual-level poverty and economic evaluations are linked to intentions to participate in xenophobic collective action, with evaluations mediating the effects of poverty.

Keywords: xenophobia, immigration, poverty, deprivation, South Africa

Words: 4850

## 1. Introduction

According to a classic social science hypothesis, hostility toward outgroups is a product of economic deprivation. Migrants, being the quintessential outsiders, are particularly likely to be targeted when economic conditions are poor. Evidence supporting this hypothesis is, however, contradictory. For every study showing an effect of economic deprivation on intergroup hostility (e.g. Dancygier 2010; Quillian 1995; Olzak 1992; McLaren 2003; Semyonov, Raijman and Gorodzeisky 2006), another finds no effect (e.g. Krueger and Pischke 1997; Green, Glaser and Rich 1998; Jefferson and Pryor 1999; Schissel, Wanner and Frideres 1989). The conceptualization and measurement of deprivation, moreover, varies widely. Furthermore, when it comes to explaining xenophobia, or hostility and violence toward immigrant outgroups, the vast majority of studies use data from Europe or North America, where natives differ from immigrants on many or all of the dimensions of race, language, and religion.<sup>1</sup> We thus cannot be sure whether economic motivations play as important a role in xenophobia as has been reported.

This paper returns to the question of whether economic deprivation produces xenophobia. The contribution is threefold. Firstly, I examine nationally-representative survey data from outside the developed world setting of much of the literature; in particular, data on black South African hostility to African immigrants. Xenophobia toward this group of immigrants is particularly high (Claassen 2014*a*; Mattes et al. 1999), with widespread attacks occurring in 2008 and 2015 (Claassen 2014*b*). This degree of hostility makes the South African data of interest in its own right, but the case also offers the potential to assist our understanding of xenophobia more generally. In contrast to the situation in the developed world, which is characterized by native-immigrant disparities in race, language and culture, the black South African–African immigrant dyad is marked by racial homogeneity and shared linguistic and religious traditions. Cultural differences between ingroup and outgroup, in other words, are minimal, thus allowing us to test the

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<sup>1</sup>Scholars have begun investigating xenophobia in developing countries in general and African countries in particular (Adida 2011; Claassen 2014*a*; Whitaker and Giersch 2015), but such studies remain very much in the minority.

effects of economic deprivation without too great a fear for the confounding effects of these cultural factors.

A second contribution of this paper is to conceptualize deprivation in a systematic fashion. I propose a fourfold typology: deprivation may afflict individuals or aggregate communities, and may be measured through subjective evaluations or objective indicators. In addition, by combining nationally representative survey data with contextual census indicators, I obtain a dataset featuring multiple measures of all four kinds of deprivation, permitting a comprehensive test.

Finally, even studies that include multiple measures of deprivation do so in an ad hoc fashion. I consider the impact of the various economic measures more systematically. Most notably, rather than treating subjective evaluations as competitors to objective indicators, or discarding them, I propose and test a model whereby subjective economic evaluations mediate the effect of objective economic conditions. I also adjust for multiple comparisons to avoid the risk of false discovery inherent when running multiple tests of a single hypothesis.

In the next section, I outline the existing literature on deprivation and hostility toward minority outgroups and develop the three critiques I have mentioned. The next section draws on a discussion of xenophobia and immigration in South Africa to explain how the case and data help tackle each of these concerns. I then outline the sources of data, choice of variables, and empirical strategy, before describing the empirical tests, their results, and the conclusions.

## **2. Existing Research**

According to a longstanding hypothesis, hostility and violence toward outgroups are triggered by economic deprivation. Hovland and Sears (1940), in perhaps the most renowned examination of this hypothesis, link the rate of lynchings in the American South to the economic conditions of the moment. Inspired by Hovland and Sears, this literature has traditionally focused on racial animosity in the US (Beck and Tolnay 1990; Hepworth and West 1988; Olzak 1990). More recently, however, scholars have turned this hypothesis to

the study of xenophobia, with numerous studies showing the effect of economic deprivation on anti-immigrant violence (Dancygier 2010; Olzak 1992), anti-immigrant attitudes (Quillian 1995; Kunovich 2004; McLaren 2003; Scheepers, Gijsberts and Coenders 2002; Semyonov, Raijman and Gorodzeisky 2006; Schissel, Wanner and Frideres 1989), and immigration policy preferences (Citrin et al. 1997; Hainmueller and Hiscox 2010).

Two main theories explain the link between deprivation and hostility to immigrants (or indeed, any other outgroup). The first of these theories views intergroup conflict as a function of intergroup competition over scarce resources such as jobs and public housing, with competition and conflict increasing when economic conditions deteriorate (Bonacich 1976; Dancygier 2010; Olzak 1992). A second interpretation is borrowed from the psychological theory of frustration-aggression (Miller 1941), with economic deprivation thought to produce frustration, leading to aggression against minority outgroups (Citrin et al. 1997; Hovland and Sears 1940; Quillian 1995).<sup>2</sup>

Despite the widespread acceptance of the link between economic deprivation and xenophobia, empirical tests have produced contradictory results. Several studies find evidence that economic deprivation is actually unrelated to outgroup aggression. The most prominent example is Green, Glaser, and Rich’s (1998) replication of the lynching dataset, which finds that the effect identified by Hovland and Sears (1940) and Beck and Tolnay (1990) is likely spurious, resting heavily on modeling assumptions, choice of economic indices, and the timeframe under analysis. Krueger and Pischke (1997) also fail to find any effect of economic deprivation on anti-immigrant violence in Germany (see also Jefferson and Pryor 1999; Krueger and Malečková 2003). In an early Canadian study, Schissel, Wanner and Frideres (1989) are unable to link anti-immigrant prejudice to either their respondents’ employment status or the unemployment rate in the city of residence. Finally, Hainmueller and Hiscox (2007) conclude that the personal threat

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<sup>2</sup>A related body of research, on relative deprivation and xenophobia (Claassen 2014*a*; Dambrun et al. 2006; Pettigrew et al. 2008), shares an interest in the effects of deprivation and thus might have also been included here. Ultimately, however, the comparison between perceived conditions and normatively expected conditions, which is the hallmark of relative deprivation, mean that this literature is not strictly testing the economic deprivation hypothesis.

of economic deprivation, whether due to labor market competition or an increased tax burden, plays no role in immigration preferences in the United States.

A second drawback of this body of research is the usage of very diverse measures of economic deprivation, ranging from contextual unemployment and economic growth rates (Krueger and Pischke 1997; Kunovich 2004; Olzak 1992; Quillian 1995; Semyonov, Raijman and Gorodzeisky 2006; Scheepers, Gijsberts and Coenders 2002; Schissel, Wanner and Frideres 1989) to personal indicators such as level of income or employment status (Citrin et al. 1997; Kunovich 2004; Hainmueller and Hiscox 2010; Scheepers, Gijsberts and Coenders 2002; Schissel, Wanner and Frideres 1989), to subjective evaluations of economic conditions or the effects of increased immigration (Citrin et al. 1997; McLaren 2003; Semyonov, Raijman and Gorodzeisky 2006). These inconsistencies in both conceptualization and measurement may account for the inconsistencies in results. Moreover, it is not clear whether these are all appropriate measures of deprivation, or whether including several in one regression model provides a reasonable test of the hypothesis.

The treatment of variables measuring respondents' subjective evaluations appears to be particularly problematic. Some scholars argue that these are not valid measures of economic conditions (Bertrand and Mullainathan 2001). But others point out that such items in fact measure individuals' perceptions of their environment, and because perception is necessary to engage psychological processes, these variables may be more theoretically important than external conditions (Campbell 1976). Evaluations are, in other words, situated down the causal path from external conditions. As such, including both sets of variables in a regression model biases the effects of the variables measuring external conditions, as the latter are causally antecedent to the former. Yet scholars who include both kinds of variables in studies of xenophobia typically do not take this bias into account.

A final concern with this literature is its overwhelming use of European and North American samples. Immigrants in these countries are increasingly ethnically and culturally distinct from the median native citizen (Burns and Gimpel 2000). Survey questions posed to citizens of these countries about immigrants are correspondingly likely to be

colored by cultural threat.<sup>3</sup> A particular concern is with subjective measures of economic threat and deprivation. As Sniderman, Hagendoorn and Prior (2004) have shown, mentioning “immigrants” in the wording of questions about economic threat introduces pre-existing considerations into the survey response. Yet even objective measures of economic conditions are not immune to this problem. Indicators for unemployment, class, or income may not be as exogenous to cultural threat as they seem, because socio-economic status has long been associated with intolerance and authoritarianism (Lipset 1960; Grabb 1979). Low socio-economic status individuals, in the developed world, are thus likely to be the individuals most threatened by the cultural differences of immigrants. The net effect is that studies based on samples from the developed world may well confound economic deprivation and cultural threat.

Thus, in sum, the literature on economic deprivation and hostility toward immigrants shows mixed results. Deprivation has also been conceptualized in very different ways, being either a condition or an evaluation, and situated at either the egocentric or sociotropic levels. It is possible that these inconsistencies in conceptualization may account for some of the inconsistent effects observed in the literature. But few, if any, scholars provide a comprehensive test of all conceptualizations of deprivations. Moreover, lurking behind all studies that make use of developed country samples is the possibility that cultural differences are confounding the analysis. The net result is that we remain unsure whether deprivation matters at all for xenophobia.

### **3. The Present Study**

This paper aims to test the hypothesis that economic deprivation results in xenophobia, using data on black South African hostility toward African immigrants. Before outlining the features of this data that help to address the criticisms leveled in the previous section, I describe the case at hand, which may be unfamiliar to readers.

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<sup>3</sup>On the role of cultural threat in xenophobia, see, e.g., Brader, Valentino and Suhay (2008); Citrin, Reingold and Green (1990); McLaren (2003).

### 3.1. Immigration and xenophobia in South Africa

The post-apartheid era in South Africa has seen sustained flows of immigrants from other African countries. Although precise numbers are elusive, the increase in African immigrants has generated considerable consternation among elites (Misago et al. 2010; Waller 2006). Less noted, at least until a few years ago, is the high levels of South African xenophobia among the mass public. Mattes et al. (1999) find that more South Africans are opposed to immigration than citizens of all other 18 countries for which they have data, with black South Africans slightly more opposed than whites. Xenophobic hate crimes are also common (Harris 2004). In 2008, however, South African xenophobia was caught in the international spotlight when a nationwide wave of violence against African immigrants left 62 dead and 100,000 displaced (Monson and Arian 2012; Steinberg 2008). Another wave of attacks took place in 2015, cementing South Africa's reputation as one of the more inhospitable places for migrants.

The most detailed data on immigration to South Africa come from the census. In particular, the question on country of birth, although biased by its reliance on respondents' self-reports, does permit comparison of the immigrant origins. In 2011, 89% of those who reported being born outside the national borders, and stated a region of birth, originated in other African countries. More important, however, is to consider the variations within that group, since they are the targets of the hostility that this paper will examine. Ninety percent of these individuals were from one of the Southern African Development Community (SADC) states. Although SADC includes some relatively distant countries such as the DRC, a 2008 survey of Johannesburg residents found that 68% of the respondents who admitted they were foreign were born in a neighboring country (Center for Development and Enterprise 2008). This same survey also found that South Africans themselves judged Mozambique and Zimbabwe as the two largest sources of immigrants to the area.

In sum, the data indicate that African immigrants are, for the most part, drawn from the countries bordering South Africa, particularly Mozambique and Zimbabwe, but also Botswana, Namibia, Lesotho, and Swaziland.



### 3.2. Cultural differences between natives and immigrants

The advantage of testing the economic deprivation hypothesis using data on black South African hostility toward African immigrants (who are almost entirely drawn from Southern Africa) is that these groups are not divided by ethnicity, particularly on the major ethnic cleavage in South Africa, race. In addition, cultural differences between these groups are also minimal, with both black South Africans and Southern African immigrants sharing linguistic and religious traditions.

The native languages of the countries from which African migrants originate – Zimbabwe, Lesotho, Botswana, Swaziland, and (Southern) Mozambique – show a great deal of similarity with South African languages. According to Guthrie’s (1948) classic typology, these languages all fall within subgroup “S” of the Bantu family of sub-Saharan African languages. The majority languages of Lesotho, Botswana, and Swaziland, are also major South African languages, as are Ndebele and Tsonga (Shangaan), which are important languages among Zimbabwean and Mozambican immigrants.

Black South Africans also share religious traditions with their neighbors. The Zionist or African Independent Christian tradition is unique to this Southern African region and is adhered to by millions across the national borders. This faith, along with mainline Protestant Christian and Catholic denominations, predominates in the region (Melton and Baumann 2010). Around 80% of South Africans and Zimbabweans adhere to these religious traditions (ARDA ND). The figure is lower (52%) for Mozambicans, due to the influence of Islam in the North. Mozambican immigrants to South Africa, however, are more likely to be drawn from Southern Mozambique, where religious traditions closely resemble those found in South Africa.

In sum, a consideration of linguistic and religious traditions in black South African and African immigrants populations suggests a preponderance of similarities over differences. Cultural difference between these groups is thus minimal, especially in contrast with the native-immigrant dyads that we typically observe in developed world samples. The effect is that cultural threat is unlikely to confound any effects of deprivation on xenophobia that we might observe in this South African data.

### 3.3. Conceptualizing and measuring deprivation

Existing research has failed to conceptualize and measure deprivation in a systematic fashion. Underlying this inconsistency is at least two major dimensions of conceptual variation. The first is the *subject of deprivation*. Researchers have conceptualized deprivation both in egocentric terms, as an economic threat or a hardship experienced by an individual and her family, or in sociotropic terms, as a threat or hardship experienced by some community of individuals. And, quite independently, deprivation varies according to its *conceptual objectivity*. It may be conceived of as a condition—something objective and verifiable—or an evaluation—something subjective and internal. These two distinctions produce a typology of four possible conceptualizations of deprivation, which are summarized in Table 1.

This paper includes measures of all four of these conceptual distinctions. The survey data include indicators of egocentric economic conditions and measures of subjective economic evaluations, both egocentric and sociotropic. This is combined with census data on the local municipalities in which respondents live, which supplies sociotropic measures of economic conditions. The result is a rich multilevel dataset with measures of economic conditions and evaluations thereof, at both the egocentric and sociotropic levels of analysis.

Although this is not the first paper to compare the effects of multiple measures of economic deprivation, it is the first to do so using a systematic conceptualization of deprivation. In any case, when using multiple measures to test a hypothesis, it is desirable to adjust statistical tests to avoid a multiple comparisons problem, where the probability of any single measure emerging significant increases with the number of measures that are used (Hochberg and Tamhane 1987). Raw  $p$ -values from these statistical tests understate the probability of a false positive, or Type-I error. I will thus adjust  $p$ -values to reflect this increased chance of a false “discovery” (Benjamini and Hochberg 1995).

### 3.4. The mediating role of evaluations

The final criticism I leveled at existing research is the misleading comparison of the effects of evaluations versus the effects of conditions. Rather than treating these different conceptualizations of deprivation as competitors, or discarding one a priori, I propose that they can be combined using an intuitive and reasonable causal model. If we think of evaluations as appraisals of economic conditions, whether egocentric or sociotropic, then it is apparent that evaluations are plausible effects of conditions. To put it another way, evaluations mediate the effects of conditions on xenophobia, to the extent that these exist. We can incorporate this additional assumption by setting up a non-recursive model of the following form: Conditions  $\rightarrow$  Evaluations  $\rightarrow$  Xenophobia.

This is a simple model to investigate because it can be separated into two discrete equations and thus two regression models: one testing the effects of conditions on evaluations, the other testing the effects of evaluations on xenophobia, controlling for conditions. It is a more satisfactory solution than discarding subjective evaluations, or testing the effects of conditions and evaluations in competition. It also fleshes out a little the psychological processes linking economic deprivation and hostility toward outgroups.

## 4. Data and Methods

The individual-level data come from the 2011 Afrobarometer survey of a nationally representative sample of South Africans.<sup>4</sup> I restrict the analysis to black South Africans, producing a sample of 1,534 respondents. This particular wave of the Afrobarometer is of interest because two items were included measuring respondents' intentions to take part in collective action against "people who have come here from other countries in Africa", thus restricting respondents' attention to the outgroup of interest for this study. The two items are correlated at 0.78, indicating that they may meaningfully be combined into a scale. Table 1 shows the distributions. Despite the aggressive nature of the items, which ask about taking part in anti-immigrant collective action, a considerable number of

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<sup>4</sup>The data are publicly available at [www.afrobarometer.org](http://www.afrobarometer.org).

respondents (13% and 16%) still choose the most xenophobic response categories. This indicates that there is considerable variance on the dependent variable, which should permit any effects of economic deprivation to be identified.

Afrobarometer survey data is combined with socio-demographic data for the local municipality in which the respondent lived at the time of the survey, extracted from the 2011 census.<sup>5</sup> Local municipalities are the smallest and most local tier in the South African administrative hierarchy. The 157 municipalities (out of 234) from which black respondents were sampled vary in size from around 12 thousand to over 4 million inhabitants.

After combining the survey and census, 12 measures of economic deprivation are available, three for each of the four types of deprivation.<sup>6</sup> The measures of economic conditions are, at the egocentric level: labor market status and informal versus formal housing, as well as the respondents' poverty experiences over the previous year, a scale that includes having gone without food, medicine, water, fuel or money. At the sociotropic level, we have data on the ingroup rate of poverty,<sup>7</sup> unemployment and lack of access to water and electricity. The Afrobarometer then includes six items measuring retrospective, current, and prospective evaluations of economic conditions, with three being personal appraisals and the other three, national. Table 2 summarizes these measures.

As the dataset includes variables at two levels of analysis, I use multilevel linear regression to test the effects of economic deprivation on the xenophobia scale. All regression models include a set of basic demographic and geographic controls that are plausibly exogenous to both the outcome and main explanatory variables. Individual-level control variables are the respondent's age group, gender, level of education, home language, and whether the respondent lives in a rural or township location. Municipal-level control vari-

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<sup>5</sup>Census data are publicly available at [interactive.statssa.gov.za/superweb/login.do](http://interactive.statssa.gov.za/superweb/login.do).

<sup>6</sup>There are a very small number of missing values, which are imputed using the Expectation Maximization algorithm on the full dataset. The only variables for which data are missing are: age (1.5% missing), news source (0.04% – 1 observation) and political interest (0.04% – 1 observation).

<sup>7</sup>This is defined here as the percentage of black households in the municipality with an annual income of less than ZAR 20,000.

ables include the log of the municipal population and the logged percent of the municipal population that is born in another African country. Additional control variables are used in other models; these are outlined in Table 3 below.

To guard against the inflated probability of false positive results from conducting multiple tests of a single hypothesis, I use the Benjamini and Hochberg  $p$ -value corrections (Benjamini and Hochberg 1995). These control the false discovery rate, or the expected proportion of false positives. After testing all available measures of deprivation, I consider a non-recursive model where evaluations are used as a mediator of the effects of objective conditions on xenophobia.

## 5. Results

### 5.1. Testing the measures of deprivation

I begin by considering the relationships between xenophobic aggression and each of the measures of deprivation in turn. Five multilevel linear regression models are used: the first tests the effects of the objective measures of economic conditions, along with the set of basic control variables (Table 3). The second instead tests the effects of the subjective measures of economic evaluations, with the third model including both sets of variables. The fourth model uses an economic evaluations scale instead of the six individual evaluation items, with the fifth model then adding a further set of additional control variables. The results of these models are presented in Table 4.

Having experienced poverty—lack of food, medicine and so on—in the previous year is associated with increased levels of xenophobia, controlling for other measures of conditions and the basic controls. This effect is greatly reduced when the subjective evaluations are added to the equation (Model 3) and is no longer significant when the evaluations scale is included. This pattern suggests that evaluations are mediating the effects of poverty on xenophobia, which will be verified in the next section.

The effects of economic evaluations on xenophobia are strong and negative, but only for prospective evaluations of personal and national welfare (Model 2). Negative

evaluations of future well-being, in other words, are associated with increased xenophobia. This finding holds when the objective conditions are added back in (Model 3). Instead of the six individual items, Models 4 and 5 include a single economic evaluations scale.<sup>8</sup> As we might expect, by combining items, random measurement error is reduced, producing a strong negative effect for the economic evaluations scale.

The two measures of labor market status – being employed and unemployed – both have (similar) negative effects compared to the omitted category of non-participation in the labor market. Although neither of these effects is generally significant, a more powerful estimate of the effect can be obtained by simply switching these two indicators out for the omitted one, as I do in Model 4 and 5. Although labor market status turns out to be a significant variable, it is not the distinction between having and not having a job that results in xenophobia. Rather it is the distinction between being actively engaged in the labor market, either by working or looking for work, and being disengaged. I will explore this finding in more detail in the next section.

None of the municipal level covariates shows a significant effect, although the ingroup unemployment rate would be considered so were the  $p$ -values not adjusted for multiple comparisons. Again, however, these coefficients suggest that unemployment is associated with lower xenophobia, indicating a more complex effect of labor market competition than simple self-interest.

## 5.2. Testing the mediating effects of evaluations

Thus far, I have followed other researchers in pitting subjective measures of economic evaluations against measures of objective economic conditions (e.g. Citrin et al. 1997; McLaren 2003). These two sets of measures of deprivation have their conceptual advantages and disadvantages (e.g. Bertrand and Mullainathan 2001; Campbell 1976). As the results of the previous section show, each appears to play a role in xenophobia.

Yet a more intuitive model is to regard evaluations as endogenous to conditions.

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<sup>8</sup>These items form a reliable scale: Cronbach's alpha is 0.77. Further details on the scaling of this variable are available in the appendix.

Individuals evaluate their welfare and the welfare of their communities based upon the conditions experienced by each. If we additionally assume that evaluations are exogenous to xenophobia, then the former can be thought of mediators of economic conditions.

There are two parts to a simple non-recursive mediation model such as this: (1) an equation predicting evaluations using conditions as well as control variables that might be exogenous to evaluations, and (2) an equation predicting xenophobia including evaluations, the conditions included in (1), and additional control variables. We have already seen several versions of the second equation in the previous section. I retain the specification used in Model 5, Table 4 in the analysis that follows. Table 5 then presents the results of a model implementing the first equation.

As the evidence from Table 4 had suggested, poverty has a strong effect on economic evaluations: the more deprived the individual, the worse her personal and national economic evaluations. We also see that living in informal housing has a similar, negative effect on economic evaluations. These two variables capture similar information regarding personal material deprivation, so it is reassuring that they both affect evaluations. In contrast, none of the municipal measures shows any impact on evaluations.

For a simple, linear mediation model such as the one at hand, the mediation effect of some exogenous variable on the endogenous variable, via the pathway of the mediator, is simply the product of the relevant coefficients from the component equations. The simulation method of Imai, Keele and Tingley (2010), however, also allows us to obtain estimates of the uncertainty of the mediated effects. The effect of poverty on xenophobia, as mediated by economic evaluations is 0.07, with a standard error of 0.01, while the mediated effect of informal housing on xenophobia is 0.04 (0.01). These results, along with the most important results from Tables 4 and 5 are summarized in Figure 2.

### **5.3. Testing the moderators of labor market status**

The final analysis to be considered is an exploration of the effects of labor force participation. As the results in Table 4 showed, this is somewhat counter-intuitive. Participating

in the job market, whether holding or looking for a job, is associated with reduced xenophobia, although we might think that such individuals, being exposed to labor market competition from African immigrants, would show increased hostility. To unpack the effects of not taking part in the labor force, I specify a model with an interaction term between this indicator and the age group indicators. The effects are best represented graphically, using predicted effects, as I do so in Figure 3.

We see that, firstly, the effects of participating in the labor force (indicated with the darker line and filled points) does not vary much by age. Not are the effects distinguishable from zero. In contrast, the effects of not participating vary dramatically by age, peaking at greater than 0.5 for the 25–34 year old group before decreasing with age. The effects of labor market non participation are significantly higher for this group than the age group in or near retirement (greater than 50). The effect is also significantly greater than zero.

Most (80%) of the respondents who were inactive in the labor force were in the lowest and highest age groups. Their inactivity is no doubt because they are largely in further education or are retired. As Figure 3 shows, however, it is not the young or aged who are driving the effects observed in Table 4; rather it is those in their working years, particularly 25–34, who should be either working or looking for work, but have apparently given up.

It thus appears that labor market competition, of a kind, can account for the strong positive effect of non participation in the labor market on xenophobia. It is not individuals actively competing with foreign nationals who express hostility, but those who have given up competing.

## **6. Discussion and Conclusion**

This paper has returned to the classic hypothesis that economic deprivation produces hostility and violence to outgroups. I focus on the case of black South African antipathy toward African immigrants, because the in- and outgroups share linguistic and religious traditions, with cultural difference thus probably not confounding the analysis. I also test



numerous measures of economic deprivation, both subjective evaluations and objective conditions, and at the egocentric and sociotropic levels.

The results suggest that economic deprivation does produce outgroup hostility. Poverty and negative economic evaluations are associated with increased hostility toward African immigrants. I find furthermore, that economic evaluations mediate the effects of economic conditions—personal experiences of poverty and living in informal housing—on xenophobia.

A somewhat surprising finding is that non-participation in the labor market is also associated with xenophobia, quite aside from one's evaluations of the economy. Subsequent analysis shows that this effect is limited to respondents of working age, particularly 25–34. At least as much as labor market competition, this finding suggests a frustration-aggression mechanism: having given up on finding work, respondents express hostility, and perhaps also attribute blame, to African immigrants.

Indeed, the frustration-aggression mechanism also appears to be the best explanation for the effects of poverty. The aversive experience of being poor offers a better parallel with the original formulations of frustration aggression theory (Miller 1941) than the measures of community unemployment or national economic conditions used in previous field studies (Citrin et al. 1997; Quillian 1995). Furthermore, the particularly pronounced negative effect of evaluations of future well-being echoes a version of the frustration-aggression theory offered by Long (1978): when conditions are hopeless, intergroup antipathy and aggression appears particularly likely.

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**Table 1.** Conceptualizing deprivation

Subject of deprivation	Objectivity of concept	Example
Egocentric	Condition	Experienced hunger in past year
	Evaluation	Personal economic evaluations
Sociotropic	Condition	Communal poverty rate
	Evaluation	National economic evaluations

**Table 2.** Measures of economic deprivation

Subject of deprivation	Objectivity of concept	Variable
Egocentric	Condition	Experiences of poverty in past year Unemployed Informal housing
	Evaluation	Retrospective personal economic evaluations Current personal economic evaluations Prospective personal economic evaluations
Sociotropic	Condition	Black municipal poverty rate Black municipal unemployment rate Black households with water and electricity
	Evaluation	Retrospective national economic evaluations Current national economic evaluations Prospective economic national evaluations

**Table 3.** Control variables

Potential confound	Control variables
<i>Basic control variables</i>	
Political mobilization	Lives in township or rural area
Labor market threat	Education level
	Age group
Cultural threat	Home language
Gender	Female
Group threat	Log % municipal population born elsewhere in Africa
	Log municipal population
<i>Additional control variables</i>	
Political mobilization	Daily news exposure (radio, TV, newspapers or internet)
	Participation in community meetings
	Index of participation in civic life
	Political engagement
Political efficacy	Internal and external political efficacy
Social trust	Trust
Labor market threat	Belief that immigrants take jobs, should not be admitted
Status threat	Strength of national identity
Relative deprivation	Municipal Gini coefficient

**Table 4.** Multilevel models of xenophobic aggression

	(1)	(2)	(3)	(4)	(5)
Poverty experience	0.13*** (0.03)		0.07* (0.03)	0.05 (0.03)	0.03 (0.03)
Unemployed	-0.14 (0.07)		-0.16 (0.07)		
Employed	-0.17 (0.08)		-0.17 (0.08)		
Not in labor force				0.16* (0.06)	0.16* (0.06)
Informal housing	-0.02 (0.06)		-0.07 (0.06)	-0.05 (0.06)	-0.06 (0.06)
Black municipal poverty rate	0.02 (0.07)		0.03 (0.07)	0.03 (0.07)	0.05 (0.08)
Black municipal unemployment rate	-0.24 (0.11)		-0.23 (0.11)	-0.23 (0.11)	-0.24 (0.11)
Black municipal water & electricity	-0.06 (0.07)		-0.07 (0.07)	-0.08 (0.07)	-0.08 (0.07)
Personal retrospective evaluations		-0.02 (0.03)	-0.01 (0.03)		
National retrospective evaluations		0.001 (0.03)	0.01 (0.03)		
Personal current evaluations		0.02 (0.03)	0.02 (0.03)		
National current evaluations		0.02 (0.03)	0.03 (0.03)		
Personal prospective evaluations		-0.16*** (0.04)	-0.15** (0.04)		
National prospective evaluations		-0.10* (0.04)	-0.11* (0.04)		
Economic evaluations scale				-0.23*** (0.03)	-0.21*** (0.03)
Basic controls	✓	✓	✓	✓	✓
Additional controls					✓
Std. dev. municipal intercepts	0.39	0.37	0.36	0.37	0.35
Std. dev. residuals	1.01	1.00	0.99	0.99	0.99
Akaike Information Criterion	4537.4	4477.6	4499.6	4468.8	4499.5

Significance tests based on Benjamini-Hochsberg adjusted p-values ( $p^{BH}$ )

\* $p^{BH} < .05$ , \*\* $p^{BH} < .01$ , \*\*\* $p^{BH} < .001$

$N$  respondents = 1534,  $N$  municipalities = 157.

Covariates other than dichotomous indicators are standardized at the respondent level.



**Table 5.** Multilevel model of economic evaluations

Poverty experience	−0.31*** (0.03)
Unemployed	−0.05 (0.06)
Not in labor force	0.04 (0.07)
Informal housing	−0.17* (0.06)
Black municipal poverty rate	0.01 (0.06)
Black municipal unemployment rate	0.04 (0.09)
Black municipal water & electricity	−0.11 (0.05)
Basic controls	✓
Std. dev. municipal intercepts	0.22
Std. dev. residuals	0.97
Akaike Information Criterion	4,351.4

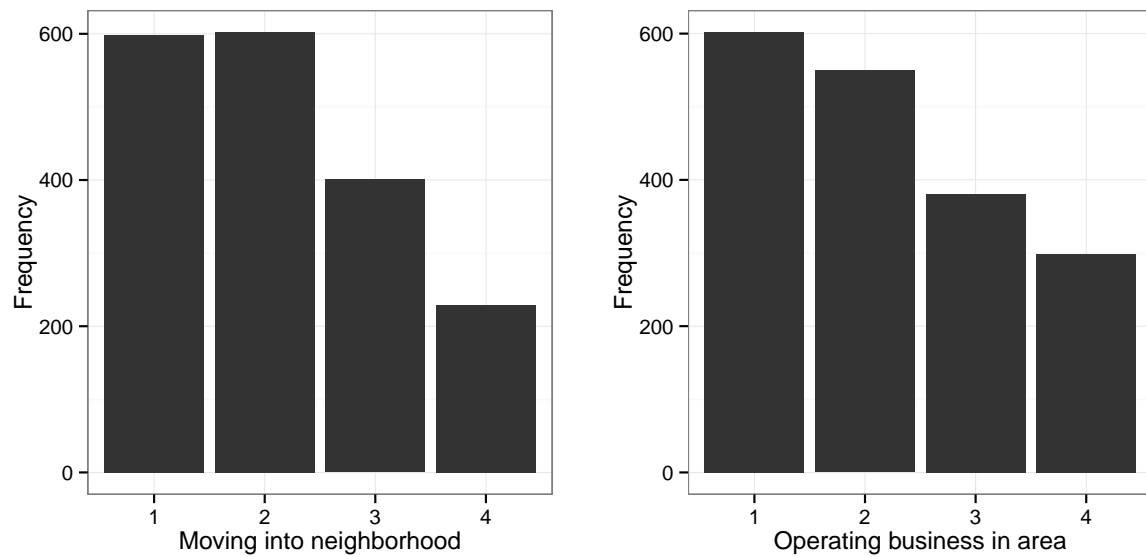
Significance tests based on Benjamini-Hochsberg adjusted p-values ( $p^{BH}$ )

\* $p^{BH} < .05$ , \*\* $p^{BH} < .01$ , \*\*\* $p^{BH} < .001$

$N$  respondents = 1534,  $N$  municipalities = 157.

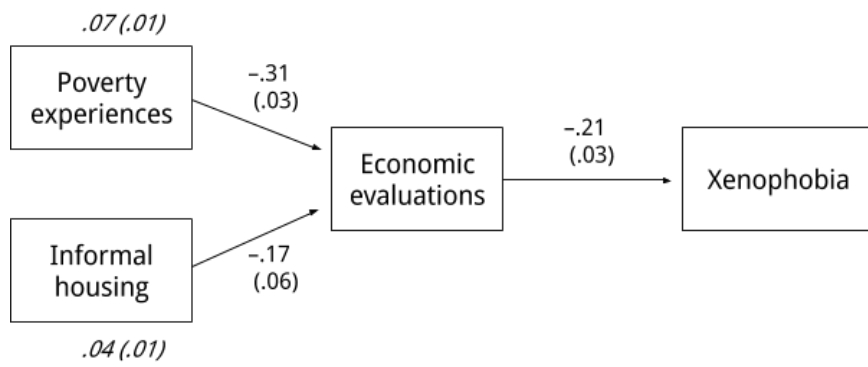
Covariates other than dichotomous indicators are standardized at the respondent level.

**Figure 1.** Items comprising the xenophobia scale



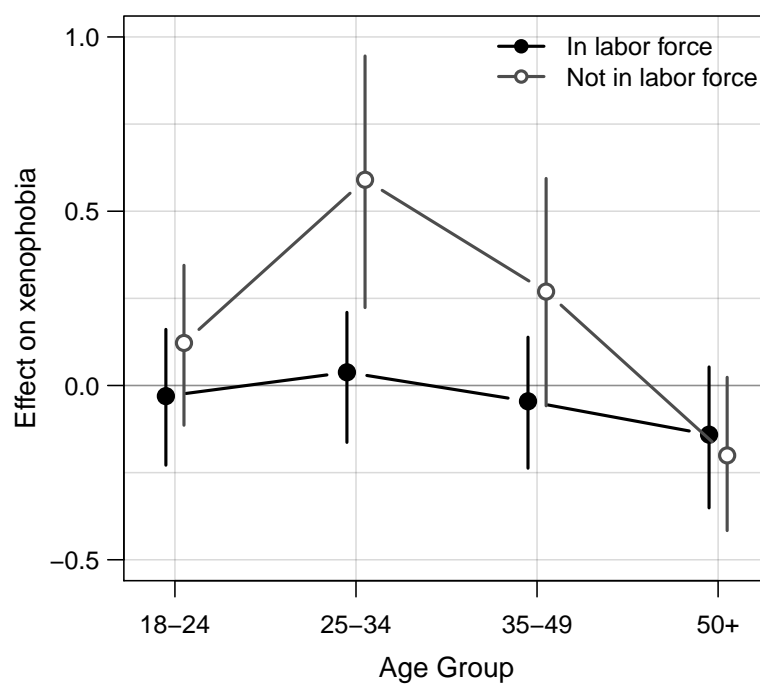
Item wording: “How likely is it that you would take part in action to prevent people who have come here from other countries in Africa from:” (A) “Moving into your neighbourhood?” (B) “Operating a business in your area?” Response sets (reflected): 1 = “Not at all likely”, 2 = “Not very likely”, 3 = “Likely”, 4 = “Very likely”. Black respondents only ( $N = 1534$ ). Frequencies are weighted.

**Figure 2.** Full model with significant direct and mediated effects



Direct effects in roman font, with standard errors in parentheses. Mediated effects in italics.

**Figure 3.** The effects of labor force participation by age group



Predicted effects for each labor force by age combination indicated with points – filled points for respondents in the labor force and hollow points otherwise. All variables other than age and labor force status held at their means, medians or modes. Vertical bars show bootstrapped 95% prediction intervals.

# Online Appendix

## Does Economic Deprivation Produce Xenophobia? Evidence from South Africa

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## 1. Question wording and scale measurement

### 1.1. Xenophobia

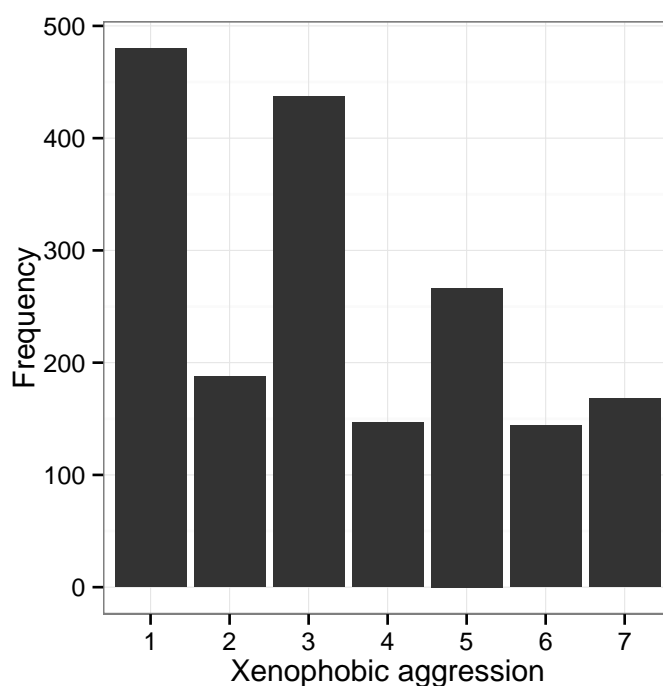
The xenophobia items are worded as follows:

“How likely is it that you would take part in action to prevent people who have come here from other countries in Africa from...” (Response set: very likely=4, likely=3, not very likely=2, don’t know=2, not likely at all=1)

1. Prevent immigrants from moving into your neighborhood
2. Prevent immigrants from operating a business in your area

The correlation between these items is 0.78. An additive scale is constructed, with the following distribution:

**Figure A-1.** Histogram of xenophobic aggression scale



### 1.2. Evaluations of economic conditions

The economic evaluations questions are worded as follows:

1. In general, how would you describe: your country’s present economic condition? (Response set: very bad=1, fairly bad=2, neither good nor bad=3, don’t know=3, fairly good=4, very good=5)
2. In general, how would you describe: Your own present living conditions?
3. Looking back, how do you rate the following compared to twelve months ago: Economic conditions in this country?
4. Looking back, how do you rate the following compared to twelve months ago: your living conditions compared to 12 months ago?

5. Looking ahead, do you expect the following to be better or worse: economic conditions in this country in twelve months time?
6. Looking ahead, do you expect the following to be better or worse: your living conditions in 12 months time?

A 2-parameter probit IRT measurement model for ordinal data is used to estimate the latent variable of general economic evaluations. To improve the fit, the error terms between the retrospective, current, and prospective pairs of items are allowed to correlate. These correlations are: 0.38 (current), 0.25 (retrospective), 0.47 (prospective). The goodness of fit statistics are reasonable.

**Table A-1.** Measurement model fit, economic evaluations

Test statistic $p$ -value ( $\chi^2 = 136.9$ , $df = 6$ )	0.000
Comparative Fit Index (CFI)	0.987
Tucker-Lewis Index (TLI)	0.968
Root Mean Square Error of Approximation (RMSEA)	0.119
Model fit from a 2-parameter probit IRT model estimated using robust weighted least squares. Correlation between retrospective, current, and prospective pairs of error terms modeled.	

### 1.3. Poverty

Over the past year, how often, if ever, have you or anyone in your family gone without: (Response set: never=1, just once or twice=2, several times=3, don't know=3, many times=4, always=5)

1. Enough food to eat
2. Enough clean water for home use
3. Medicines or medical treatment
4. Enough fuel to cook your food
5. A cash income
6. Electricity in your home

**Table A-2.** Measurement model fit, poverty

Test statistic $p$ -value ( $\chi^2 = 47.4$ , $df = 9$ )	0.000
Comparative Fit Index (CFI)	0.994
Tucker-Lewis Index (TLI)	0.989
Root Mean Square Error of Approximation (RMSEA)	0.062
Model fit from a 2-parameter probit IRT model estimated using robust weighted least squares.	

## 2. Full model results

**Table A-3.** Economic evaluations full multilevel model

Covariate	Coef.	S.E.
<i>Individual-level covariates</i>		
Constant	0.40*	(0.19)
Area: former homeland	−0.08	(0.10)
Area: urban formal	−0.10	(0.10)
Area: urban informal	0.01	(0.11)
Education: primary	0.17**	(0.06)
Education: some secondary	0.24**	(0.07)
Education: secondary complete	−0.03	(0.11)
Education: post-secondary	−0.13	(0.23)
Age: 25-34	−0.06	(0.07)
Age: 35-49	−0.19**	(0.07)
Age: 50+	−0.14	(0.08)
Female	0.004	(0.05)
Language: Other	−0.07	(0.23)
Language: Pedi	−0.01	(0.16)
Language: Shangaan	−0.06	(0.20)
Language: Sotho	0.13	(0.17)
Language: Swazi	0.05	(0.22)
Language: Tswana	0.06	(0.16)
Language: Venda	−0.39	(0.22)
Language: Xhosa	−0.30	(0.16)
Language: Zulu	−0.14	(0.16)
Poverty experience	−0.31***	(0.03)
Unemployed	−0.05	(0.06)
Employed	0.04	(0.07)
Informal housing	−0.17**	(0.06)
<i>Municipality-level covariates</i>		
Log population	−0.01	(0.04)
Log % foreign	0.05	(0.06)
Black municipal poverty rate	0.01	(0.06)
Black municipal unemployment rate	0.04	(0.09)
Black municipal water & electricity	−0.11	(0.05)
N (respondents)	1534	
N (municipalities)	157	
Std. deviation of municipal intercepts	.22	
Std. deviation of residuals	.97	

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$



**Table A-4.** Xenophobic aggression full multilevel model

Covariate	Coef.	S.E.
<i>Individual-level covariates</i>		
Constant	0.39	(0.22)
Area: former homeland	−0.06	(0.11)
Area: urban formal	0.11	(0.10)
Area: urban informal	−0.08	(0.12)
Education: primary	−0.20**	(0.07)
Education: some secondary	−0.16*	(0.08)
Education: secondary complete	−0.11	(0.11)
Education: post-secondary	−0.59*	(0.24)
Age: 25-34	0.10	(0.07)
Age: 35-49	0.01	(0.07)
Age: 50+	−0.21*	(0.08)
Female	−0.11*	(0.05)
Language: Other	0.02	(0.24)
Language: Pedi	−0.04	(0.17)
Language: Shangaan	−0.05	(0.21)
Language: Sotho	−0.17	(0.18)
Language: Swazi	−0.13	(0.24)
Language: Tswana	−0.04	(0.18)
Language: Venda	0.22	(0.24)
Language: Xhosa	−0.26	(0.18)
Language: Zulu	−0.09	(0.17)
Poverty experience	0.03	(0.03)
Not in labor force	0.16**	(0.06)
Informal housing	−0.06	(0.06)
Economic evaluations scale	−0.21***	(0.03)
Political participation	0.12**	(0.04)
Daily news consumption	−0.06	(0.06)
Trust	−0.03	(0.03)
Political engagement	0.01	(0.03)
Social participation	0.03	(0.03)
External political efficacy	−0.11***	(0.03)
Internal political efficacy	−0.01	(0.03)
National identity	−0.03	(0.03)
Exclude immigrants due to jobs	0.08**	(0.03)
<i>Municipality-level covariates</i>		
Log population	0.08	(0.05)
Log % foreign	−0.07	(0.07)
Black municipal poverty rate	0.05	(0.08)
Black municipal unemployment rate	−0.24*	(0.11)
Black municipal water & electricity	−0.08	(0.07)
Inequality	−0.04	(0.06)
Std. deviation of municipal intercepts	.35	
Std. deviation of residuals	.99	

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .  $N$  (respondents) = 1534,  $N$  (municipalities) = 157