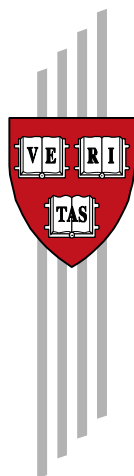


Ethnicity, Capital Formation, and Conflict

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Abstract

Ethnicity plays an ambiguous role in the great transformation. On the one hand, ethnicity creates: by providing incentives that organize the flow of resources across generations, it provides the capital for urban migration and the acquisition of skills for industrial employment. On the other hand, ethnicity destroys: ethnic conflict leads to costly acts of violence.

Using data drawn largely from Africa, this paper explores the two faces of ethnicity. In so doing, it finds that the presumed link between ethnicity and violence is more complex and less threatening than most assume. Those who claim a straightforward link are making an elementary error in the reading of tabular data.

Keywords: Africa, ethnicity, modernization, social capital, violence, investment

JEL Codes: O15, O16, O17, O18, O55

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I. Introduction

Ethnicity is double edged. On the one hand, ethnic groups promote the forces of modernization; phrased more fashionably, they constitute a form of social capital (Coleman 1990; Putnam 1993). By promoting urban migration and education, ethnic groups advance the private fortunes of their members. On the other hand, ethnic groups organize politically; occasionally they engage in acts of violence, destroying wealth and discouraging the formation of capital. Ethnic groups can thus both generate benefits and inflict costs on societies.

In advancing this first theme, the paper advances a second: that the political dangers of ethnicity are imperfectly understood. Every modern industrial nation possesses urban centers whose politics are organized in significant part by ethnic groups. In the modern world, ethnic politics is normal politics. This being the case, ethnicity clearly need not, in general, be feared. Equally clearly, ethnic rivalries *can* fuel political violence. To understand fully the significance of ethnicity, it therefore becomes important to establish the conditions under which ethnic competition can lead to political conflict. In seeking to identify those conditions, we turn to the distinction between necessity and sufficiency in causation. To straightforwardly equate ethnicity with violence is to ignore this distinction. Put another way, as will be shown below, it is to ignore the information contained in all but one cell of a fourfold table.

II. Ethnicity and Modernization

Urbanization, education, and the rise of per capita income constitute the social and economic attributes of development. Political participation constitutes the major political correlate. As

populations move to towns, secure higher levels of schooling, and thereby achieve higher incomes, they also become more active politically. They more frequently possess and offer political opinions; seek and exercise the right to vote; and join and participate in associations, rallies, demonstrations, and strikes.¹

Many students of development appear to believe that modernization implies the end of ethnicity. With education, nationalism, it was argued by some, would supplant less cosmopolitan political identities, such as those supplied by ethnic groupings; with the growth of markets and the rise of per capita incomes, it was argued by others, class interests would supplant ethnic identifications. Modernization would lead to the politics of nationalism and class action (Rostow 1961; Shils 1957, 1981).

Scholars soon encountered facts discordant with such expectations. Many were driven to recognize that rather than weakening the power of ethnicity, modernization instead strengthened it.

Events in Northern Rhodesia – now known as Zambia – provide an apt illustration. Following the discovery of rich copper deposits, Northern Rhodesia rapidly became one of the most urbanized territories in all of Africa (Davis 1969). By the late 1950s, the mining companies had hired on over 30,000 employees and constructed a score of townships. Investing in schools, social facilities, and medical services, the companies promoted the creation of a permanent labor force. One of the last regions to be colonized in Central Africa, Northern Rhodesia rapidly became its most urbanized.

As modernization theory would predict, urbanization generated class-consciousness and political activism soon followed. By the late 1940s, the African mineworkers had formed a trade

¹ See Lerner (1958) for findings based upon surveys; Deutsch (1961) for findings based upon aggregate data; and Milbraith (1965) for a review and synthesis.

union and labor organizers promoted strikes and sometimes violence in the mine compounds. In the early 1950s, the more educated, white-collar workers formed an independent Mines' African Staff Association. The creation of the Staff Association represented the assertion of the interests of a growing, urban middle class; it contained the most modern elements of the newly industrialized population, with interests that differed from those of manual laborers (Epstein 1958).

If the Mines' African Staff Association contained the most modern element members in Northern Rhodesia, then the royal court of the Lozi contained the most traditional. The Lozi kingdom had joined Northern Rhodesia under the terms of a special treaty with Great Britain. Resisting integration into the broader colony; emphasizing its distinctive "special relationship" with the colonial office in London; deeply skeptical of the nascent nationalist movement; celebrating and preserving tribal traditions – by its reaction to its political environment, the royal court sought to preserve the special identity, and parochial interests, of the Lozi tribe.

This juxtaposition of the formation of the Mines' African Staff Association with the activities of the Lozi kingdom renders significant the behavior of one Godwin Lewanika. Founder and leader of the Staff Association, Lewanika constituted a charter member of the modern elite. Nonetheless, in the early 1960s, Lewanika chose to resign his post in the Staff Association and to assume the throne of the Lozi. A high level of education; an urban based occupation; leadership in a class-based association – by his behavior, Lewanika indicated that the possession of these attributes did not imply the extinction of ethnic loyalty. Rather than treating ethnicity as rivalrous with modernity, Lewanika instead treated it as complementary.

The pattern exhibited in Northern Rhodesia finds its parallel in other regions of the world. Scholars elsewhere noted that it was the educateds who took the lead in the building of

ethnic associations. Thus Lonsdale describes how the “Christian establishment” of mission-trained literates helped to form the Kavirondo Taxpayers Welfare Association in Western Kenya and Twaddle depicts the launching of the “Young Bagwere Association” by “the ‘new men’ created by missionary education” in Eastern Uganda (Twaddle 1969, p. 628; Lonsdale 1970). Scholars note too that it was those who held top jobs in the “modern” sector – clerks, traders, and professionals – that founded such organizations. Ottenberg (1995) recounts, for example, the role of urban traders in organizing the Afikpo Ibo in Nigeria, while Sklar stresses that throughout Nigeria ethnic associations were created by “lawyers, doctors, businessmen [and] civil servants,” whom he characterized as the representatives of a “new and rising class” in African society (Sklar 1967, p. 72). Scholars note too that, more often than not, these associations originated in the towns. The Ibo associations of Nigeria first emerged in Lagos (Abernethy 1969). Abako, a once powerful political movement of the BaKongo, was first formed in Kinshasa, and only later recruited support from the countryside (Young 1965). And it was in the railway towns, rather than in the villages, that the Luo Union enrolled its first members in eastern Africa (Grillo 1969).

As with the formation of ethnic associations, so too with ethnic conflict: In Nigeria, for example, disputes among Ph.D.-holding executives in distinguished universities fanned the tensions that culminated in civil war. Members of different ethnic communities rallied behind one of their own for appointments to top posts in elite institutions. Ojuku, the leader of the Biafran succession, was himself a college graduate. So too was Tshombe in Zaire and is Buthelezi in South Africa, and so too are the heads of warring factions in Southern Sudan.

Modernization thus does not extinguish ethnic ties. Rather, it appears to impart new vitality to them.

III. Rural Origins: The Family and Contracts between Generations

Sociologically, modernization refers to the growth of education and to the rise of cities. Economically, it refers to rising levels of per capita income. The growth of these attributes requires inputs of capital; more specifically, it requires investment in human beings. In most societies, such investments take place in families; this is particularly true in developing societies, where only formal institutions tend, by and large, to have access to markets for capital. And while ethnic groups are not merely scaled-up forms of kinship, kin groups nonetheless do form their primary units; people “join” ethnic groups by proving their membership in families that share common ancestry. A major argument of this paper is that ethnic groups render credible implicit contracts between the generations within their constituent family units, thus strengthening the incentives that enable families to serve as instruments for the formation of human capital and agencies for the modernization of societies.

The Family, Modernization, and Investment

People can and do join ethnic groups. But in contrast with most other groups, not just anyone can join. A search through records of descent and marriage or sponsorship by a family in good standing may well be required to enroll.² While membership is an entitlement that can be activated, the entitlement is restricted by family membership.³

Recognizing the central role of families in ethnic organizations enables us better to grasp the relationship between modernization and ethnicity. To a significant degree, modernization is achieved through the process of human capital formation. This process is privately organized;

² Thus Horowitz writes: “There is no bright line to be drawn between kinship and ethnicity, especially in societies where the range of recognized family relationships is wide and the importance of kinship ties is great.” (Horowitz 1985, p. 60).

that is to say, it is organized by families. Families organize the flow of resources between generations and sectors, thus promoting the acquisition of skills and urban migration, and thus the modernization of societies. Ethnic structures of power help to preserve the contract between generations within family units.

The markers of modernity -- urbanization and education -- are closely linked; for people often acquire education the better to prepare themselves for urban employment. The acquisition of these attributes requires that people bear present and certain costs in order to secure future payoffs that are uncertain. Financing such investments often takes the form of intergenerational transfers within families, in which the older generation -- parents or affines -- channel resources to the younger, helping its members to relocate in sectors of the economy within which they can secure higher incomes (Sjaastad 1962; Sahota 1968).

The benefits of such sacrifices include the emotional rewards of having secured a better future for one's offspring; they also take material form. Children in town dispatch a flow of goods to relatives in the countryside: clothing, shoes, and household products that may be in short supply or difficult to purchase on rural incomes. They also send money, either to underpin the consumption needs of their kin or to invest in buildings (shelter for people, animals, or farm equipment), to upgrade stocks of trees or cattle, or to purchase or to clear new lands.

To illustrate, it is useful to return to materials from Africa. I once conducted research in a village in Luapula Province, Zambia, which supplies labor to the mining centers. I focused on links between town and country and found that the income rural dwellers derived from town varied systematically with the structure -- size, age composition, and education -- of their families (Table 1).

³ The substance of this right, like that of most other rights, is negotiable. As is frequently pointed out, there is a plastic quality to ethnicity; it is not rigid, as is sometimes argued by people who stress the role of primordialism or

The coefficients suggest that an additional child thus yields, on average, 3.23 kwacha.⁴ They also suggest that adding a year to the children's education results in 8.16 more kwacha in remittance income. Interviews indicated that a year's schooling cost 40K, on average: 20 kwacha in fees and 20 more in clothing and other expenses. Supporting a child through the completion of secondary school (i.e. through 12 years of education) would be expensive; but it would, by these estimates, result in over \$100 a year in future income. The costs incurred by the parents in the village thus generate a stream of income from urban kin. And they yield a rate of return that would be competitive with many other investments.

Moving beyond Luapula Province, we find that rates of migration vary by district. As shown in Table 2, differences in the level of education vary significantly with levels of net out-migration from the districts of Zambia. As would be expected, so too do differences in measures of rural prosperity. What is of particular interest, however, is the coefficient on variable 3.

In some places in Zambia, people can herd cattle; in others, they can not. The reason for this difference is the presence or absence of tsetse fly, which spreads a disease fatal to domesticated livestock. As the coefficient for variable 3 suggests, in districts in which families can accumulate cattle herds, the rate of urban migration is significantly lower than in districts in which families cannot. Probing the meaning of this coefficient deepens our understanding of the role of the family in the modernization process.

Cattle reproduce, and the natural rate of increase yields a return on the costs of initial acquisition. Where urban centers are expanding, and when per capita incomes rise, the demand for meat increases as well, and, along with it, the value of livestock. Interviews with those who

tradition.

⁴ The kwacha is the local currency and was then (1966) worth about \$US1.40.

manage the family herds of Zambia suggest a keen understanding of the investment opportunities that they offer. As noted by Robin Fielder (1973, p. 351), the Ila – a cattle keeping people in Central Zambia -- state "cattle are our bank." Not only do they yield a monetary return, but also social returns, advanced through their use in the payment of bride price, in hospitality, or in the cementing of long-term relationships or alliances. As Fielder concludes, "cattle are regarded very much as shares or investments ..." (Ibid.). Where people possess such an alternative, they confront fewer incentives to organize the transfer of resources between generations. We may therefore expect less expenditure upon the education of children, less preparation for the urban job market, and less migration to town.

Cattle keepers throughout much of Africa behave much the same way as do those in Zambia. Their behavior contrasts with that of agriculturalists, who educate their children and migrate to town, where they secure jobs in the modern sectors of the economy. Much of the literature portrays cattle-keepers as "conservative" and as "resenting change."⁵ Our understanding of the behavior of families suggests, however, an alternative explanation: that cattle constitute an alternative form of investment, which competes favorably with investment in children.

Diagram 1 offers a schematic portrayal of our argument. It portrays families as consisting of generations: the young, the middle-aged, and the elderly. When born into a family, the young are supported by the middle-aged, who are economically active; becoming middle-aged, they, in turn, support the next generation. They support as well the elderly, who, when themselves middle-aged, had nurtured them. Insofar as the contributions of the young yield later

⁵ The classic remains Herskovitz (1926).

streams of income, this intergenerational transfer of resources thus renders the family a means of investment – one which promotes urbanization, education, and thus the process of development.⁶

Political Power and Social Reciprocity

Because of lack of collateral, such as individualized rights in land; the lack of information, leading to the rigid rationing of credit; and the lack of effective legal systems, such that opportunistic borrowers can renege with impunity, markets for capital often do not exist in developing societies. In such settings, then, non-market mechanisms often provide the primary means for securing savings and investment.⁷ A social organization, the family, comes to serve an economic function, eliciting savings and organizing investments in human beings.

There are obvious opportunities for defection from this system. The parties are separated by distance. Living in town, the youngsters are "abroad;"⁸ literally and figuratively, they dwell beyond the reach of their parents. The exchanges are separated by time: people are expected to reciprocate for kindnesses experienced when children. Given the resultant opportunities for defection, the system appears fragile. What keeps it intact?

Sentiment plays a major role, of course. Parents gain satisfaction from the success of their children, and are therefore willing to devote resources to their upbringing. Children, moreover, take pride in their ability to provide for their parents. The existence of such sentiments condition expectations, such that people are willing to channel savings to children believing that they may well in the future return them, augmented, in distant times and from far off destinations.

⁶ For additional treatments, see Samuelson (1958); Hammond (1975).

⁷ See the arguments of Posner (1980); Binswanger and McIntire (1987); Bardhan (1989).

⁸ Thus the title of the fine paper by Hershfield (1969)

Additional mechanisms are at play. They involve the use of power. And it is here that ethnic groups become important.

Ethnic groups strengthen the role of the older generation, particularly elders and family heads in rural areas, providing them with sanctions over junior kin. Knowing that they can sanction opportunism by members of the younger generation, the seniors then have reason to believe the latter's promises to repay for investments made in their education and emigration from their rural communities.

Land Rights

In many agrarian societies, individuals often cannot freely transfer land. The constraints on land use also yield power to elders, and thereby strengthen the credibility of intergenerational contracts and the capacity of families to form capital.

Upon the end of their work lives, urbanites often seek to return to their rural homes. They do so because housing and food are less costly in the rural areas; because village life is less dangerous; and because of the presence of relatives, who may assist them in their declining years. When land is not allocated through the market, it is then allocated politically, be it by elders, clan heads, chiefs or headmen to members of their community. To remain a member in good standing, future retirees therefore must retain a social presence in these communities, even when living "abroad." Many do so by providing gifts and money to their rural kin. By fulfilling their obligations to their families, they retain friends in court, so to speak, who affirm their membership in the rural community during deliberations over land rights.

The political allocation of land rights thus gives the elders of the family, who have stayed at home, a mechanism to secure resources from the middle-aged, who work in town. By privileging the position of the rural elders, the political allocation of land lowers the risk to them

of securing a return from their investments in the careers of the young. Given the power of the older generation, it would be foolish for members of the younger generation not to devote resources to the repayment of the debts they incurred in their youth. Knowing that, the middle-aged can rationally invest in the departure of the young to the towns. The political control of land rights helps to close the bargain between generations.

In the phenomenon of ethnicity, there is thus not only a close tie between the economic and the sociological; there is also a close relationship between the sociological and the political. Because families are embedded in ethnically based systems of governance in which the elders possess power, resources flow between generations.

Cultural Rites

Ethnicity mobilizes not only sociological but also cultural forces that safeguard contracts between generations.

The older generation, based in the rural areas, exploits its position as the custodian of the “true” culture of their communities. Its members lay claim to this position in order to control the behavior of their offspring. Rural elders emphasize the significance of bringing up children in the ways of their forefathers. Children who do not know the rituals; who had not been properly initiated in the secrets of the tribe; who did not know their elders, their forefathers, or their family’s history – such children, rural dwellers realize, pose a danger. By shirking in their obligations to kin, they would undermine the capacity of the family to act as a means of investment. They would therefore threaten the role of kinship in underpinning the fortunes of rural based kin.

When seizing the position of interpreters of culture and tradition, rural leaders not only target the young; they also target the elderly. In Eastern Africa, for example, the Luo have long

ventured from the inland savannas to the forest zones about Lake Victoria, the coast of the Indian Ocean, and the towns along the line of rail. Where they died, there they were buried. In recent years, however, rural leaders have “revived” a “tradition” of burial in the rural homelands (Cohen and Odhiambo 1992). As the elders control the allocation of rural lands, they possess power over internment and the burial of the dead. To secure a proper burial, those who have migrated to other destinations must remain on good terms with the rural –based kin. The tradition of rural burial thus fortifies the power of rural families to extract resources from “sons abroad.” And in so doing, it reinforces the incentives that render the family a means of forming capital.

As suggested in Diagram 1, the formation of capital in families involves a contract between generations. Those actively employed invest in the young at time T_0 in anticipation of receiving a stream of profits in a subsequent period (time T_1), when they themselves have become elders and the youths middle-aged. Ethnic groups consist of congeries of families. They accord power to elders, who exercise political control over the allocation of “tribal” land and the interpretation of culture and tradition. By empowering the elders, ethnic groups create a political framework that renders credible the expectation that the young will in fact honor their debts.

Ethnic groups thus provide a structure of power that underpins intergenerational contracts within their constituent units, which are families. They thereby shape expectations in ways that enable them to underpin the formation of capital. Ethnic groups strengthen incentives to educate the young and to instill in them skills; they fortify the forces that render the young a source of enhanced family wellbeing for all members of society. In so doing, they also promote the flow of persons from rural areas to town and from agriculture to industry.

By helping to propel people from sectors in which diminishing returns constrain the possibilities for higher incomes into sectors in which increasing returns are possible, ethnic groups have promoted the modernization of societies and the development of economies throughout the globe.

IV. Urban Origins of Ethnic Groups

While anchored in the rural areas, ethnic groups are often organized by people in towns. Ethnic groups are often organized by the elite members of disadvantaged communities that find themselves disadvantaged in the urban labor market. They are formed in an attempt to alter expectations in labor markets and thus patterns of remuneration that are viewed as “discriminatory” by ethnic minorities but as “normal” by employers of labor.

The Social Correlates of Leadership

In an intriguing study of Eastern Nigeria, David Abernethy (1969) describes the behavior of “ethnic missionaries,” as he calls them. Because of their proximity to Lagos, the Yoruba had been among the first in Nigeria to be subject to the impact of mission education; and by dint of their location, they encountered low costs of migration to town. They therefore possessed a competitive advantage in the labor market in the colonial capital. Only decades later did mission schools spread among the peoples of Eastern Nigeria. As a result, when Ibo job seekers arrived in Lagos, they found the best jobs taken by the Yoruba. As Abernethy writes:

The struggle for employment was bound to produce frustration, and those not chosen for the best jobs found it easy to blame their plight on the advantages possessed by members of other groups. Of course different groups clearly did have differential access to education, which in turn was the key to job mobility.

What was the best course of action open to the urban migrant who was acutely concerned lest his ethnic group fall behind others in the struggle ...? Certainly the rural masses had to be informed of

the problem. If the masses were not aware of their ethnicity, then they would have to learn who they really were through the efforts of “ethnic missionaries” returning to the homeland. These “missionaries” would also have to outline a strategy by which the ethnic group, once fully conscious of its unity and its potential, could compete with its rivals. Clearly the competition required enrolling more children in school, particularly at the secondary level, for the graduates of a good local secondary school would be assured of rapid ... mobility within modern society (Abernethy 1969, pp. 107-108).

The behavior of Abernethy’s “ethnic missionaries” finds its parallel elsewhere. In his typically pungent and informative fashion, Gellner, portrays their role in the fictive nation of “Ruritania” (1983 pp. 58-62).⁹ Covering a wide range of cases from throughout the world, Horowitz cites the particular case of French-speaking Canada, wherein the incessant message that the people are “weak, unprogressive, too backward” and comes not only from their ethnic competitors but also from the ranks of their “own elites” (1985 p. 171).

Several factors made it in the private interests of the “advanced” members of the “backward” groups to seek to enhance the stock of skills held by members of their community. Among the most important is the factor of information.

Markets for labor are plagued by high levels of uncertainty. It is difficult to observe, *ex ante*, the skills that inhere in a person; they can best be observed *ex post*, that is, upon observing actual performance. Employers must therefore often choose among job applicants on the basis of expectations. They therefore offer opportunities that reflect the average, that is the expected, value of applicants of a given kind. The category may be defined by attendance at a given school, the past performance of those from a given course of study, or past encounters with persons from a given place of origin.

⁹ It should be noted that the analysis in this paper provides micro-foundations for Gellner’s classic analysis of the behavior of the “blues” (Gellner 1983 pp. 66ff).

In the absence of a formal education system, reputations form, of necessity, about social, rather than formal, criteria. Persons from a given social category find it advantageous to seek a particular kind of job; in expectation, their prospects are maximized by offering their services in occupations for which they are perceived as best qualified. Costly information thereby can give rise to occupational specialization by ethnic groups.

Thus Perry (1993) documents the sorting of persons into craft and industries by region in Shanghai, and the impact upon attempts to form class-based workers movements by the communist party. Horowitz (1985) notes that in South Asia the British regarded some groups as martial (e.g. the Gurkhas) and targeted them for military recruitment; others as mechanical (e.g. the Sikhs), whom they then recruited as artisans; and still others (e.g. the Brahmins) as skilled administrators, and therefore as prized candidates for jobs in the public service. Documenting the existence of “a dogma of ethnic skills,” Horowitz notes as well the existence of “ethnic specialists” in the nations of South East Asia: Chinese tin miners and traders, Indian rubber tappers, and Ceylonese railway men, for example (1985, pp. 109-111).

Informational constraints in labor markets results not only in occupational specialization but also in stratification. Persons from groups or regions poorly endowed with schools and training facilities lack, on average, the skills of those from groups or regions that had been better endowed. They therefore receive on average fewer high quality job offers. As a result, they come to lodge within the lower ranks of the distribution of income.

In Central Africa, for example, missionaries had established schools in Malawi (then Nyasaland) and Barotse (now part of Zambia) before entering the northern portions of the region. The mining companies and colonial authorities soon came to prize the educated migrants from those areas, with the result that Malawians and Lozi came to hold the top jobs in industry and

public administration. Bemba-speakers, being from the north, were less likely to possess formal education; they therefore came to “specialize” in manual labor.¹⁰

Within such patterns of stratification, it is those who inhere in the lower ranked groups, but who possess above-average skills, who most suffer. Because of imperfect information, their skills are evaluated in expectation; the inferior average endowment of their group therefore lowers their individual earnings. Insofar as bids for labor reflect social reputation, they are discriminated against in labor markets. Educated and skilled members of “inferior” groups therefore pay the highest costs of discrimination, and therefore possess the strongest incentives to end it.

Keying wage offers to expectations leads to a canonical encounter: one that lies at the core of the history of many, if not most, ethnic revivals. On the one hand, a skilled person from a “backward” group receives a salary reflecting the employer’s skepticism, based on her observations the average performance of employees from that group. On the other, a poorly qualified member of an “advanced” group benefits from the reputation of her group; he too will be offered a wage that reflects the reputation of those who belong to his group. In the work place, then, talented persons from “backward” groups find themselves laboring under poorer conditions of service than less qualified persons from “advanced” groups. The resultant ire sparks the mobilization of ethnic protest.

Often ethnic groups are seen as traditional or atavistic; they are regarded as the vestiges of societies now eclipsed by the forces of modernization. From such a perspective, it is therefore anomalous that the leaders of such groups come from the highly educated elements of urban-

¹⁰ One result was that the members of the Mines’ African Staff Association, which organized the wealthier employees of the mines, saw their interests defined not only in economic but also in ethnic terms. This mixture of interests helps to explain why Godwin Lewanika could experience the element of continuity when moving from the head of the Staff Association to the Chieftancy of the Lozi.

based communities. But these patterns are what is to be expected, given the initial conditions – the uneven spread of education in the rural sector and the high costs of observing human skills -- and an assumption of rationality on the part of employers and migrants.¹¹

The Strategies of Leaders

“Moderns” therefore turn to ethnic protest. Highly skilled members of groups that possess poor skills, on average, choose, quite literally, to demonstrate. They demonstrate in order to gain visibility and thereby to publicize the presence of articulate and capable persons of their kind. They demonstrate to publicize the costs inflicted upon people like themselves. By demonstrating, activists therefore seek to alter expectations in the labor market and to provide visible evidence of the benefits to be gained from modifying the prevailing system of employment.

When rural areas are unequally endowed with educational opportunities, it is therefore almost inevitable that rural out-migration will result in urban ethnic protest. Urban ethnic protest leads to rural political activism as well. A descent of urban activists upon rural kin fuels a cultural awakening, with the creation of reading groups and correspondence societies, the building of schools, and the training of teachers. This revival is often accompanied by political conflict, as urban migrants intervene in the selection of rural councilors, headmen, or chiefs,

¹¹ Gary Becker’s analysis (1957) differs from that offered here in that it assumes perfect information, employs trade theory, and emphasizes the patterns of opposition that take place between persons competing on the same side of the labor market.

Suppose, Becker argues, that of two ethnic groups, one possesses (and is widely perceived to possess) the greater abundance of human capital. Absent discrimination, this group would “export” services intensive in the use of human capital, while the other group would “import” such services and “export” ones intensive in the use of unskilled labor. In the skilled group, the least skilled would be interested in “protection”, i.e. discrimination that impedes such trade; in the unskilled group, it would be the most skilled.

Becker’s argument thus also leads us to expect activism among the elite members of the disadvantaged group. But it predicts separatism, rather than ethnic revival. The analysis I offer is, then, superior, in that it not only accounts for the social identity of the activists, but also (as we shall see) for their demands, which are more often activist and transformational than separatist. I thank Ronald Rogowski for pointing out the contrast with Becker’s argument.

seeking thereby to put in place “progressive” local leaders who will transform their home communities.

Urban elites strive to prepare their rural kin for the “new world” that awaits them -- or rather the one that they themselves have encountered – be it in Lagos or Dakar, West Africa; in the mining towns of Central or Southern Africa; or in New York, London, or Marseilles, when migration had taken them abroad. Preaching the virtues of schooling, education, and training, they seek better to equip their brethren in the competition for jobs in town.

While urban elites often engage in secular evangelism out of a sense of public service, such activism is privately useful as well. Given the significance of reputation in the determination of employment contracts, they find their own prospects tied to the assessment of the average quality of job candidates from their region. By altering the distribution of skills in the pool of candidates from which they themselves will be drawn, they can thus improve their own prospects in the market place. They seek to dispel the belief that people like them might well not be qualified, when appraised for economic opportunities.

Ethnic groups thus emerge as an alliance between urban elites and rural dwellers. They blend the talents and aspirations of the urban cosmopolitans with the desire for material gain – and political respect – on the part of the rural provincials. While the result is often a conflict for leadership between “moderns” and “traditionals,” their interests are as often in concert as in conflict. The incentives to compete are sufficiently strong that, joined in movements of ethnic revival, the two can secure the transformation of their societies.

Conditions in urban markets connect the interests of urban elites to the collective standing of their rural homelands; they find it privately advantageous to invest in the collective advancement of their village communities. And while urban elites may experience conflict with

rural leaders, they find it in their interests to respect their power over culture traditions and the lands of their birth. For their power underpins the relationship between generations that fuels investment in the modernization of their societies.

V. The Movement toward Protest

From the moment of their creation, ethnic groups are political. They organize wards and neighborhoods in cities; politicians can not resist seeking to incorporate them into their political organizations. Urban leaders insert themselves into the selection of chiefs, headmen, mayors, and school boards at home; they therefore charge into the political fray in the village areas as well.

For a variety of reasons, ethnic groups may seek to transform local political influence into national political power. Some of their leaders possess private political ambitions. Others seek to influence the distribution of “improvements” by governments to the advantage of home constituencies. Whatever the motivation, urban-based elites seek to build organizations of sufficient importance that they can participate in policy making at the national level.

Some do so by brokering their influence in the towns and urban centers into influence over national political agendas. In the United States, for example, the Presidency is the sole national office. New York, Miami and Chicago control major blocs of votes in states that themselves loom large in the electoral college. Exploiting their influence within state delegations, urban political elites thereby gain influence over national political outcomes.

Others find it useful to organize more broadly, forming organizations of greater size and geographic spread. They are driven once to return “home” and to tend to the interests of their rural communities.

The rise to national power of urban-based blacks in the United States, for example, was marked by the building of ties between black political leaders in the “north” and the rural leadership of the “south,” from which black migrants had come. Black political leaders in Chicago, Cleveland, or Detroit long had influenced the behavior of national political candidates, particularly within the Democratic party; to gain control over the national political agenda, however, they had not only to champion the interests of their urban constituents but also the interests of blacks in other regions and, in particular, in the agrarian south. By transforming local protests against job discrimination into a national crusade for civil rights, they forged political links between urban destinations and rural points of origin, built a national political movement, and thus gained the capacity to engrave their political preferences into national legislation.

Similar dynamics mark the developing world. In Zambia, for example, urban elites first built associations in the towns formed by the mining industry or along the line of rail. They subsequently transformed these organizations into improvement associations, which focused on the welfare of rural communities. And with the formation of political parties, they then transformed these associations into ethnically based fractions of the nationalist movement (Rotberg 1965). The political organization of “country” by “town” re-occurred in the post-independence period as well. When Vice President Kapwepwe challenged Kenneth Kaunda for the Presidency of Zambia, for example, he first cultivated Bemba-speaking members of the urban elite in the copperbelt; these elites then traveled back to the rural areas; and organizers in the rural areas then gained the opportunity to put forward their demands for roads, schools, and government projects. They sought to use their power in ways that compelled the government to

bring the jobs to them, rather than their having to migrate to the city in search of jobs (Bates 1976).

The search for national political influence thus leads to efforts by urban-based political elites to secure the backing of rural dwellers. The result, once again, is the empowerment of rural elites. When the urbanites return home in search of political backing, the rural elites stand ready to extract a price. On the one hand, they secure backing for their private positions of leadership in the rural community and the its ethnic association. On the other, they use their position to extract benefits for their rural brethren.

In seeking rural support, urban elites do not form a united bloc; they compete, if only for positions of leadership within their own communities. Rural leaders find ways of exacerbating and exploiting this competition as well. In Kenya, for example, rural leaders seek donations for community projects from those urban-based elites who seek political support from their rural communities. They also seek political services: help from the government in supplying materials or “regularizing” the legal status of schools and clinics constructed by members of the community, for example. Those seeking political prominence dare not be seen as niggardly or impotent, and so are driven to contribute to and to labor on behalf of the projects initiated by the rural political leaders. In this manner, rural elites have been able to secure the construction of schools, cattle dips, roads, and clinics in rural areas (see, for example, Barkan 1986).

Political incentives thus join economic interests in promoting ethnic ties between urban elites and rural communities. The politicization of such ties represents to some (Gluckman 1960; Berman and Lonsdale 1992) the transformation of “ethnicity” into “tribalism.” As the connotation of the words would suggest, this transformation is often viewed as threatening. The word “tribalism: points to the “dark side” of the processes that have been analyzed thus far.

Ethnicity may yield the benefits of education, urbanization, and rural development. But, observers relate, it may do so at too high a price: one that yield patterns of politics that are dangerous because they are violent.

The discussion thus far already casts doubt upon such arguments. For it suggests that ethnic politics is normal politics. Ethnicity is linked to the rise and development of communities in all regions of the world; and ethnicity shapes political relations in all major urban centers, including those, such as Shanghai, Manchester, or New York, that have transformed the contemporary world. When ethnic politics is so pervasive, and when political violence is not, then surely ethnic politics cannot pose the dangers of the magnitude often attributed to it.

To pursue this argument further, I turn to a continent whose politics is widely viewed as being dominated by ethnic groups and pervaded by political violence: that of Africa. Making use of a variety of data sets, I explore the relationship between ethnicity and violence. On the one hand, the findings confirm the skepticism regarding the dangers of ethnicity. On the other, they also point to a “red” or “danger” zone, in which political relations among ethnic groups may in fact turn violent.

Do Ethnic Tensions Imply Political Violence?

To investigate the relationship between ethnicity and violence, I make use of a data set containing economic, social, and political information on forty-six African countries over the period 1970-1995.¹² To capture the properties of ethnicity, I employ data on the size distribution of ethnic groups¹³; on linguistic diversity¹⁴; and data marking the presence (or absence) of an

¹² All save the North African nations and the Republic of South Africa, whose politics remained largely *sui generis* throughout this period. Many of these data can be downloaded from <http://www.gov.harvard.edu/research/rbates>.

¹³ Data from Morrison et al. (1989).

¹⁴ Gunemark (1991).

ethnic minority at risk, as judged by Ted Gurr and his team of researchers.¹⁵ For data on political protest and violence, I make use of research by Arthur Banks, with his counts of the number of riots and demonstrations providing measures of political protest and his counts of the frequency of revolts and assassinations providing measures of political violence.¹⁶

To begin with, we start with some simple tabulations (Table 3), based on roughly 1,200 country years of data.¹⁷ The rows provide an indicator of ethnic tension: the presence or absence of a minority at risk. As the conventional wisdom would suggest, ethnic tensions are indeed pervasive in Africa; roughly two-thirds of the observations register the existence of a minority at risk. But the table also shows that, *pace* the conventional wisdom, acts of protest and violence are relatively scarce. Over the period 1970-1995, for example, Banks recorded only fifty-two assassinations. Only in the case of revolts, a measure compounded from other measures (see Table 4), did more than 12 percent of the observations record acts of protest and violence. The distribution of cases in Table 3 is such that when there were riots, demonstrations, revolts, assassinations, or civil wars in Africa 1970-1995, then, almost invariably (more precisely from 76% to 84% of the time), an ethnic minority was at risk. But the table also highlights that a vast majority of the time (as high as 94%, in the case of assassinations), a minority can be at risk, and ethnic tensions therefore high, without there being political violence.

Consider the data against the background of Tables 5 and 6. Were the presence of a minority at risk a *sufficient* cause of political violence, when there is a minority at risk, then violence *must* occur. The data would then appear as in Table 5.

¹⁵ Gurr (1993).

¹⁶ I purchased the data on protest and violence from Arthur Banks.

¹⁷ 46 countries over 26 years.

Were the presence of a minority at risk a *necessary* cause of violence, then we would expect the data to exhibit a different pattern: lacking a minority at risk, there should be no violence. The data would therefore appear as in Table 6.

Viewed in light of Tables 5 and 6, the data in Table 3 strongly suggest that while the presence of ethnic minorities may approximate a necessary condition for political violence, it does not constitute a sufficient condition.

Observers of political violence note the association between the occurrence of violence and the existence of ethnic minorities. But failing to take into account the full array of data, however, they fail to note that in the largest number of instances, where there are minorities at risk, there is nonetheless no warfare. They fail to make use of all the information in the four fold table. And by confusing sufficiency with necessity, they therefore overestimate ethnicity's dangers.

A Closer Inspection

Of all the regions of the world, it is in Africa that we should expect to find a straightforward link between ethnicity and violence. We fail to do so, however. Upon closer inspection, however, we can discern a “red” or “danger” zone, wherein the politics of ethnicity appears to change in nature.

In the following equations (Tables 7-12), I explore the relationship between a measure of ethnicity – the size of the largest ethnic group (see Table 4) – and a series of measures of protest (riots and demonstrations) and of violence (revolts and assassinations). As the literature on participation and development suggests a relationship between modernization and instability (e.g. Huntington 1968), while exploring the impact of ethnicity, I control for the impact of urbanization, education, and per capita incomes. Recent research (e.g. Goldstone 1991) stresses

the importance of demographic factors and especially the proportion of the population made up of young males (e.g. Mesquita and Wiener 1998). I therefore also include a measure of the size of the cohort of young men in the population.

Because of the time invariant nature of the measures of ethnicity, I am unable to make use of the data in annualized form. For the dependent variables, I instead employ the total, or average, number of acts of protest and violence over the 26 year period, or the number or proportion of years in which such acts occurred; for the time varying dependent variables, I employ annual averages. Limitations in the data, especially that on education, result in the dropping of a number of countries from the sample. The small number of observations that remain – in the range of twenty or so – severely limits the information that can be extracted from the data.

Discussion

Table 7 provides an overview of the estimates. Of particular interest are the coefficients associated with language and ethnicity. The variable “language” captures the percent of the population that does *not* speak the official language at home; it provides a measure of linguistic diversity. Whereas linguistic diversity associates with *reduced* levels of protest, when controlling for the impact of other variables, it associates with *higher* levels of violence. “Ethnicity,” or the size of the largest ethnic group, enters quadratically; when the coefficient for the linear term is significant, so too is the coefficient for the quadratic. But as the size of the largest ethnic group grows, the level of violence initially decreases, but then increases; by contrast, the level of protest initially increases, but then falls.

Tables 8-11 offer further details for a selection of estimates. The first two tables (Tables 8 and 9) pertain to acts of violence; the second pair (Tables 10 and 11) to acts of protest.

It is important to emphasize the low quality of the estimates. As shown in Table 7, many of the coefficients are imprecisely estimated. And as shown in Tables 8-11, the models tend to “over-predict” infrequently observed events and to “under predict” ones that are frequently observed. It is particularly clear that in the case of violence, at least, significant factors have been omitted from the models. Nonetheless, the estimates do offer insight into the role of ethnicity that is of considerable interest to social scientists, as well as to students of Africa. And, interestingly, they show ethnicity to be of greater consequence for violence than for riots and demonstrations.

The Red Zone

The graphics that accompany each table depict the relationship between the size of the largest ethnic group and the dependent variable. They highlight the differences in the sign pattern noted above: upward, then downward sloping, in the case of protest; downward, then upward sloping, in the case of violence.

The data thus suggests that as the largest ethnic group increases in size, the level of protest mounts; and the coefficients of the “control variables” (Table 7) indicate that protest is most intense in highly urbanized societies. As the quadratic form of the relationship between ethnicity and protest suggests, the data also indicate that beyond a certain point, as the largest group increases in size, the frequency of protest declines. By contrast, as the largest ethnic group increases in size, the level of violence at first declines; then, beyond a certain point, the level of violence rises. Diagram 2 captures these relationships.

The patterns in the data suggest that as the largest ethnic group reaches 50% or more of the population, then people confront the possibility of permanent political hegemony or, alternatively, of permanent political exclusion. In the face of such prospects, people may change their preferred form of political action, switching from protest to violence. That people are more

likely to employ violence the more wealthy the country (and therefore the greater the spoils of victory), lends credence to this interpretation (see Table 7). In the face of the prospects of large gains or large losses, people may be more willing to “go for broke” and take the riskier actions that violence entails.

The histogram in the background portrays the distribution of the measure of ethnicity across the 46 African nations. It suggests that one reason for the relationship between ethnicity and violence, as discussed in the previous section, is the high level of ethnic diversity in most nations in Africa.

Note also the difference in the behavior of the measure of linguistic diversity. A high value on this measure implies cacophony in town, and therefore high costs of political organization. But high levels on this measure need not imply high costs of organizing in rural settings. Given the geographically concentrated distribution of language communities in Africa, high levels of national linguistic diversity, as measured by the language variable, can coexist with high levels of linguistic homogeneity in rural settings. The switch in the sign of the coefficient on linguistic diversity when moving from protest to violence, along with the loss of significance for the coefficient on urbanization, may thus signal a change in the structure of politics, as political competition shifts from the urban to the national level and as urban organizers swarm out of the towns and into the countryside.

VI. Discussion

Conventionally, ethnicity is viewed as posing problems for national development. In the study of Africa, for example, ethnic diversity is commonly viewed as either directly associated with slow growth (Easterly and Levine 1997) or as retarding its growth through its impact on violence. By contrast, this essay has argued that the forces of ethnicity provide means for

rendering inter-generational contracts binding, thereby promoting private investment, and means for mobilizing private resources for public purposes, thereby promoting the formation of public goods. Ethnicity, I have argued, elicits investment and the formation of capital and thus promotes growth in developing societies. It structures incentives at the micro-level and in ways that promote macro-level transformations.

This essay has joined with the writings of others (e.g. Laitin and Faeron 1996) in casting doubt upon a second tenet of the conventional wisdom: that ethnic diversity promotes violence. While violence may often possess ethnic roots, even in societies with strong ethnic tensions (as when minorities are at risk), it has shown, ethnic diversity can peaceably persist.

Yet ethnic differences *can* promote violence. This paper has isolated conditions under which they can do so. It has therefore also identified the circumstances that call for policy intervention and the nature of the relevant remedies.

Ethnic politics is most volatile, it would appear, when an ethnic bloc may be sufficient in size to permanently exclude others from the exercise of power. The group then stands in a position to privatize the state, as it were. Politics may then be redefined as a redistributive or zero-sum game and become fundamentally conflictual in nature. The remedy would appear to be (1) to avoid strengthening the incentives to exclude and (2) to institutionalize incentives to promote inter-ethnic cooperation.

Some, such as Van Evera (1995), have explored the politics of minorities at risk and advocated the endowing of “nations” with “states,” the better to ensure their security (Van Evera 1995). The data explored in this paper suggest, however, that when groups become ascendant in jurisdictions, then violence may replace protest as a preferred political strategy. As we have seen, the prospects of political capture of the polity and the fear of the resulting permanent

political exclusion, may drive ethnic leaders to wager on violence. Put another way, it is diversity, not homogeneity, that lowers the probability of conflict. Separatist solutions may therefore exacerbate, rather than ameliorate, the problem.

The same findings cast doubt upon another common political prescription: the creation of federal systems, with ethnically homogeneous regional units.¹⁸ Should the incentives driving our findings be correctly understood, then such a remedy would only transfer the locus of violence to the local level, i.e. to within the constituent states.

The analysis thus cautions against some forms of remedy. In doing so, it underscores the value of others. In particular, the analysis lends support to the argument advanced by Horowitz (1995): that in ethnically diverse societies, we should seek to avoid the adoption of winner-take-all institutions for the choice of governments. Plurality-based elections would exacerbate the fears of permanent exclusion that appear to drive the relationships we observe. Proportional representation, by contrast, helps to ensure the representation in legislatures, where minorities can then join in the bargaining over the formation of governments. In particular, transferable voting encourages the formation of political alliances, as parties can benefit from agreements over the pooling of votes. Insofar as policymakers seek to reduce fears and to strengthen incentives to form political alliances, they may therefore want to adopt proportional representation with transferable votes, thereby dampening the tensions that arise in multi-ethnic societies.

Our data thus offer reason to welcome, and not to fear, ethnic diversity in developing societies. They provide insight into the kinds of institutions that might allow us to reap the economic benefits and avoid the political costs of cultural diversity. They suggest that the most

desirable institutions would be those that weaken the prospects of winner take all outcomes and that assuage the fear of permanent political exclusion, thereby countering the logic that leads political violence to replace political protests in ethnically diverse settings.

¹⁸ See also the discussion in Laitin (1998).

Diagram 1: Intergenerational Transfers

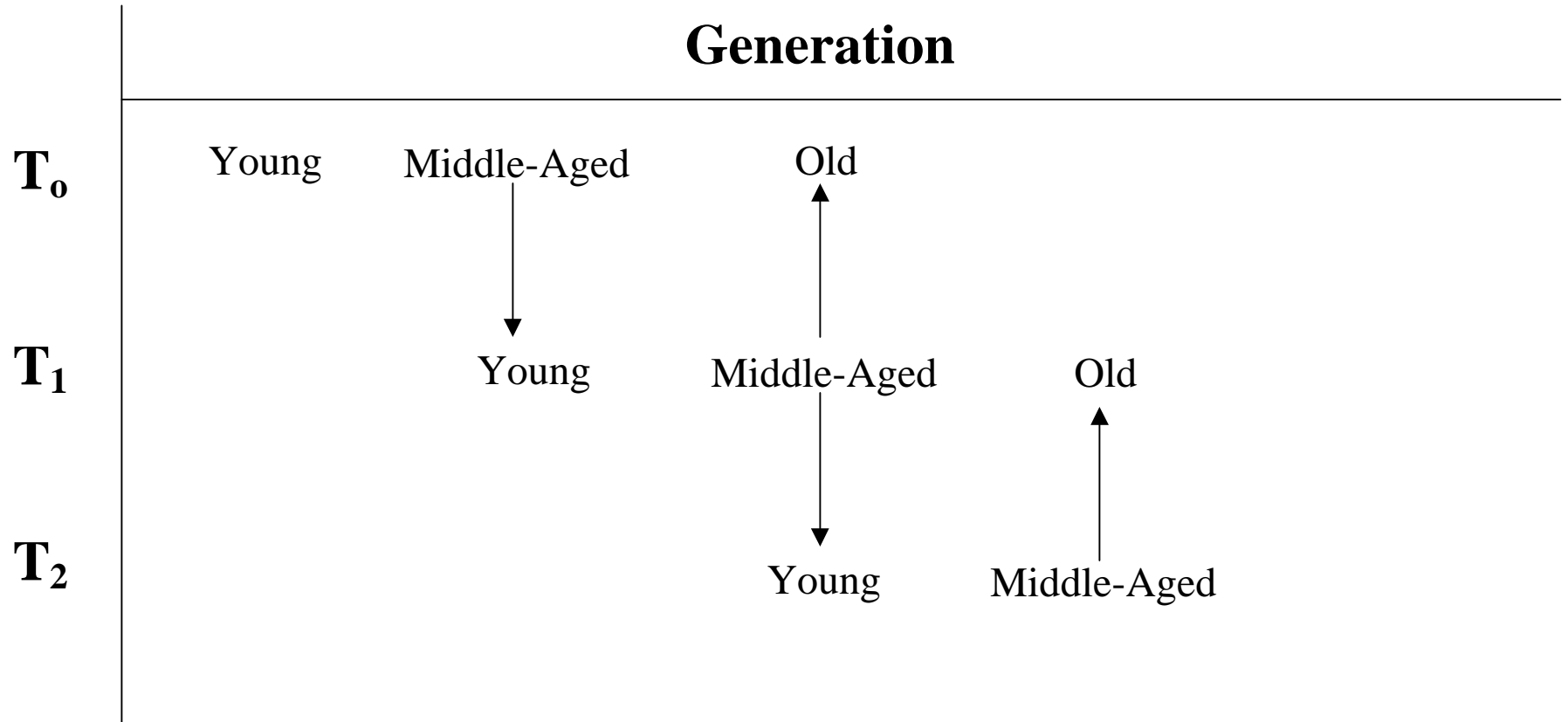


Table 1: Income from Town and Family Structure

Dependent Variable: Value of Total Remittances from Town	
Independent Variables	Coefficient t-statistics
Number of Children	3.228 (2.509)
Average Age of Children	0.5753 (2.225)
Average Education of Children	8.161 (1.527)
Constant	0.1685
R ²	0.17
F	4.206, p<0.01
N	105

Source: Robert H. Bates, *Rural Responses to Industrialization* (New Haven and London: Yale University Press, 1971), p. 200.

Table 2: Correlates of District Level Rates of Out-migration

Dependent Variable: Estimated Rates of Out-migration from Districts in Zambia, 1963-1969	
Independent Variables	Coefficient t-statistics
1. Percent schooled, 1963	0.6613 (3.625)
2. Male/female ratio, 1963	33.57 (1.769)
3. Cattle per capita	-10.55 (1.527)
4. Brick rooms, per capita	-16.95 (1.612)
Constant	27.06
R^2	0.6464
F	6.398 (sig. = 0.01)

Source: Robert H. Bates, *Rural Responses to Industrialization* (New Haven and London: Yale University Press, 1971), p. 172.

Table 3: Protest, Violence and Minorities at Risk

		Riots?		Demonstrations?		Assassinations?		Revolts?		Total
		Yes	No	Yes	No	Yes	No	Yes	No	
Yes	Number	82	569	80	572	42	609	183	468	651
	Percentage Column	83.7	62.8	79.2	63.3	80.8	64	76.3	61.3	
	Percentage Row	12.6	87.4	12.3	87.9	6.5	93.5	28.1	71.9	
No	Number	16	337	21	332	10	343	57	296	353
	Percentage Column	16.3	37.2	20.8	36.7	19.2	36	23.8	38.7	
	Percentage Row	2.5	51.8	3.2	51	1.5	52.7	8.8	45.5	
Total		98	906	101	904	52	952	240	764	

Diagram 2: Size of Largest Ethnic Group, Protest and Violence

Inflection points: Points at which “ethnicity” makes its maximum/minimum impact

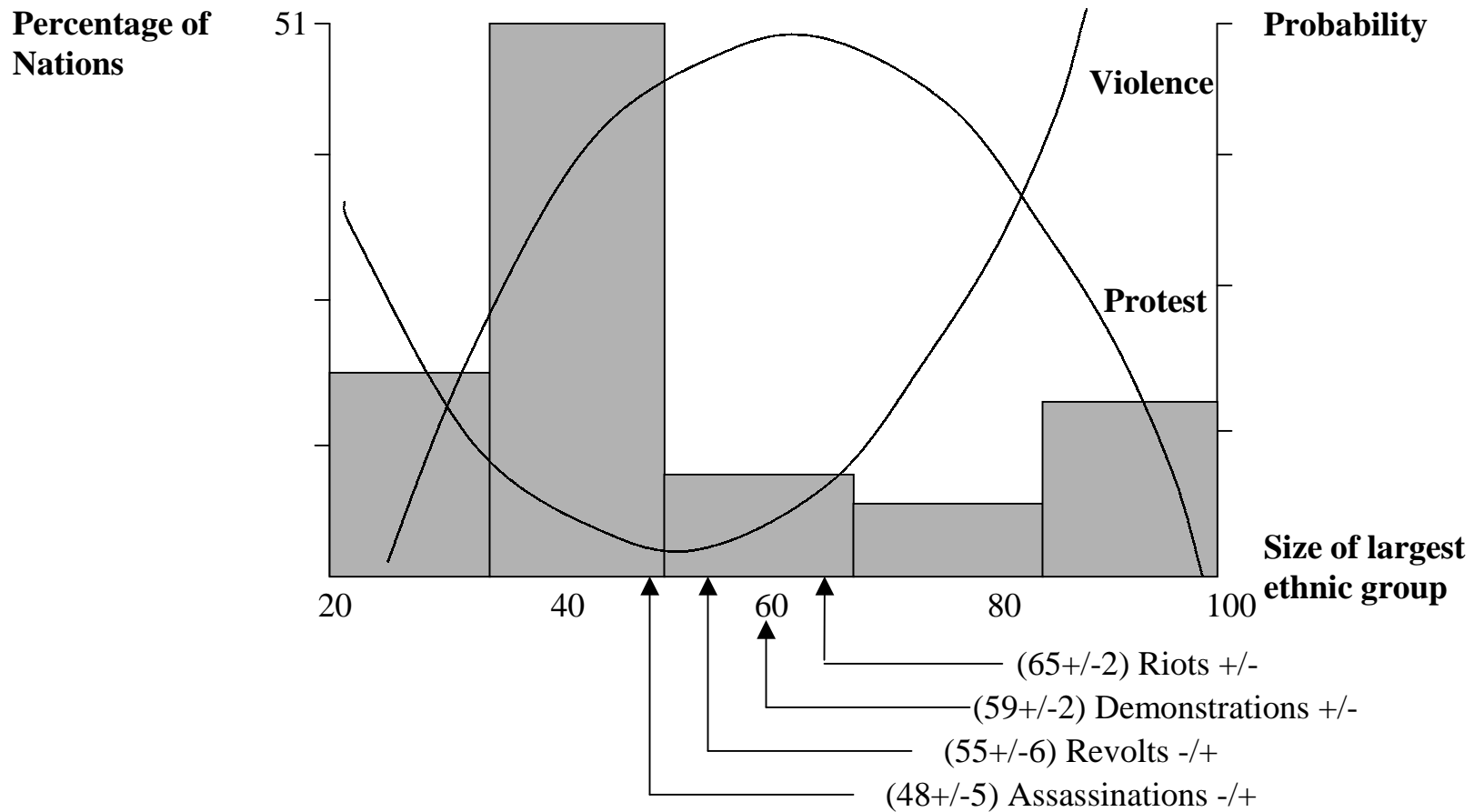


Table 4: Variables Employed

Definition

Average number of years of secondary education in the total population, age 25 or over

Urban population as percent of total population in logs.

Real per capita GDP, PPP chain index,

Percent of population who do **not** speak the official language at home

Percent of population in largest ethnic group

Percentage of males aged 15-29 in the adult male population

Any peaceful public gathering of at least 100 people for the primary purpose of displaying or voicing their opposition to government policies or authority, excluding demonstrations of a distinctly anti-foreign nature.

Any violent demonstration or clash of more than 100 citizens involving the use of physical force

Any illegal or forced change in the top governmental elite, any attempt at such a change, or any successful or unsuccessful armed rebellion whose aim is independence from the central government.

Any politically motivated murder or attempted murder of a high government official or politician

Source

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Banks, Arthur S. 1994. Cross-National Time-Series Data Archive. Center for Social Analysis State University of New York at Binghamton.

Table 5: Sufficiency?		
Minority at Risk?	Violence?	
	Yes	No
Yes	+	0
No	+	+

Table 6: Necessity?		
Minority at Risk?	Violence?	
	Yes	No
Yes	+	+
No	0	+

Table 7: Sign and Significance of Key Independent Variables

Measures of Protest				Measures of Violence			
Riots		Demonstrations		Revolts		Assassinations	
Sign	Significance	Sign	Significance	Sign	Significance	Sign	Significance
-	high	-	high	+	low	ambiguous	low
+	mod/high	+	high	-	low	-	low
-	mod/low	-	moderate	-	low	+	low
-	low	-	mod/high	+	high	+	high
+/-	mod/high	+/-	moderate	-/+	high	-/+	low
+	mod/high	+	mod/high	+	high	+	high

Note: Runs were over four versions of each variable and three different measures of the youth variable. The entries therefore reflect the central tendency of roughly twelve coefficients.

Table 8.1

Dependent Variable: Number of Years with Assassinations

Independent Variables	Coefficient	Robust Std. Error	t - stat.	P > t
Education	-1.472	1.190	-1.236	0.216
Urbanization	0.848	2.246	0.377	0.706
Income	1.050	0.628	1.671	0.095
Language	0.941	0.775	1.215	0.225
Ethnicity	-10.349	3.265	-3.170	0.002
Ethnicity²	9.186	2.744	3.348	0.001
Youth	25.297	8.897	2.843	0.004
Constant	-17.966	6.787	-2.647	0.008

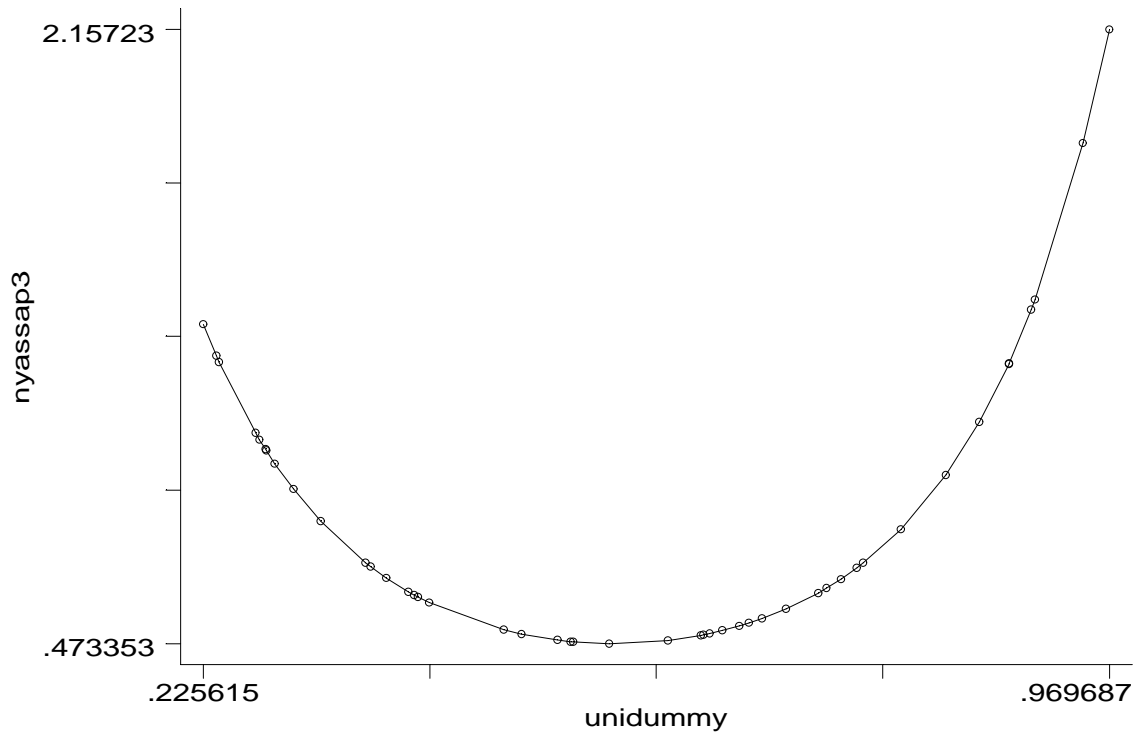
Performance

Percentiles	Obtained Number	Predicted Number
25	0	0.521
50	1	0.667
75	2	1.032
99	5	2.157

Table 8.2

Number of Years with Assassinations

1) Predicted Values of Number of Years with Assassinations vs. Ethnicity



2) First Difference Effects of Number of Years with Assassinations

Variable X	Estimated coefficient	Change in X (from, to)	First difference
Education	-1.472	(0.035, 0.8)	-0.739
Urbanization	0.848	(0.05, 0.74)	0.517
Income	1.050	(5.8, 8.2)	2.956
Language	0.941	(0.05, 0.95)	0.547
Ethnicity	-10.349	(0.19, 0.563)	-1.229
Ethnicity ²	9.186	(0.036, 0.317)	
Ethnicity	-10.349	(0.563, 0.99)	2.047
Ethnicity ²	9.186	(0.317, 0.98)	
Youth	25.297	(0.41, 0.55)	3.285
Constant	-17.966		

Table 9.1

Dependent Variable: Proportion of Years with Revolts

Independent Variables	Coefficient	Robust Std. Error	t - stat.	P > t
Education	5.202	2.375	2.190	0.029
Urbanization	-7.011	5.336	-1.314	0.189
Income	-0.776	1.104	-0.703	0.482
Language	3.698	2.329	1.588	0.112
Ethnicity	-12.272	10.411	-1.179	0.238
Ethnicity²	11.412	9.319	1.225	0.221
Youth	-4.741	8.459	-0.56	0.575
Constant	9.457	9.039	1.046	0.295

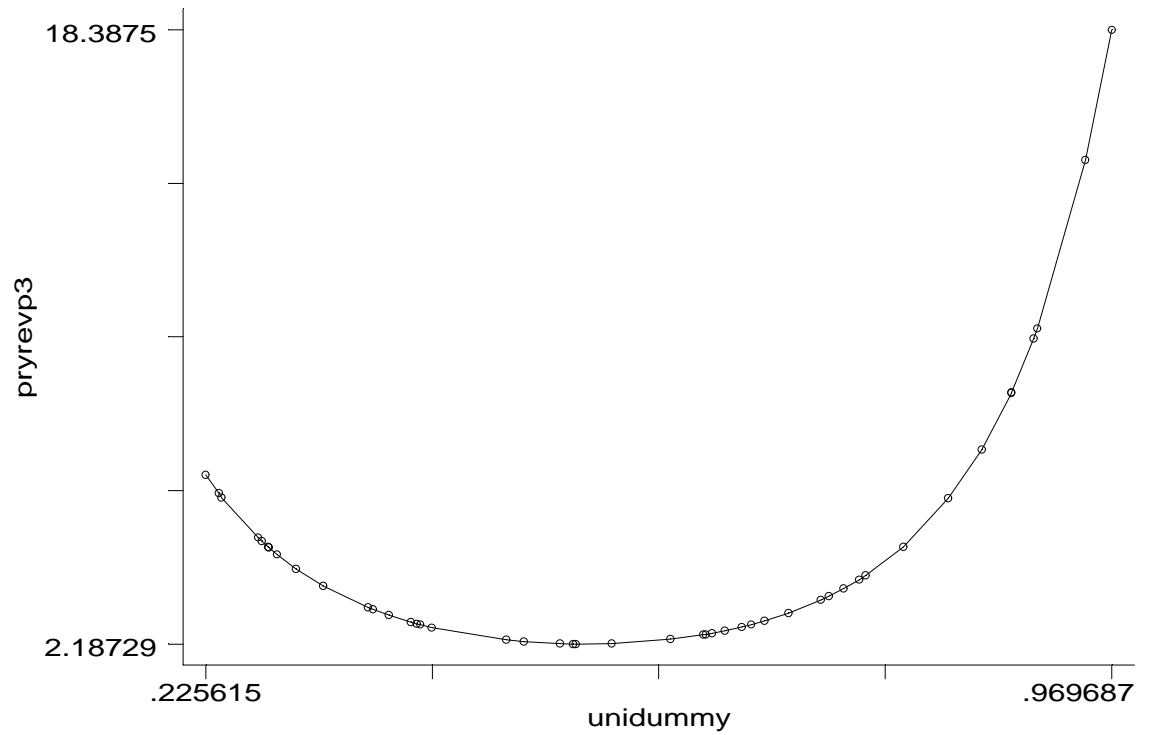
Performance

Percentiles	Obtained Number	Predicted Number
25	0.05	2.621
50	0.15	3.394
75	0.33	4.995
99	0.81	18.388

Table 9.2

Proportion of Years with Revolts

1) Predicted Values of Proportion of Years with Revolts



2) First Difference Effects of Proportion of Years with Revolts

Variable X	Estimated coefficient	Change in X (from, to)	First difference
Education	5.202	(0.035, 0.8)	61.668
Urbanization	-7.011	(0.05, 0.74)	-16.938
Income	-0.776	(5.8, 8.2)	-7.525
Language	3.698	(0.05, 0.95)	8.752
Ethnicity	-12.272	(0.19, 0.538)	-6.497
Ethnicity ²	11.412	(0.0361, 0.289)	
Ethnicity	-12.272	(0.538, 0.99)	20.385
Ethnicity ²	11.412	(0.289, 0.98)	
Youth	-4.741	(0.41, 0.55)	-2.829
Constant	9.457		

Table 10.1

Dependent Variable: Total Number of Riots

Independent Variables	Coefficient	Robust Std. Error	t - stat.	P > t
Education	-3.670	1.087	-3.375	0.001
Urbanization	8.573	4.025	2.130	0.033
Income	-0.144	0.751	-0.191	0.848
Language	-1.110	0.740	-1.500	0.134
Ethnicity	13.240	7.663	1.728	0.084
Ethnicity²	-10.686	5.927	-1.803	0.071
Youth	19.859	4.691	4.234	0.000
Constant	-11.513	4.026	-2.859	0.004

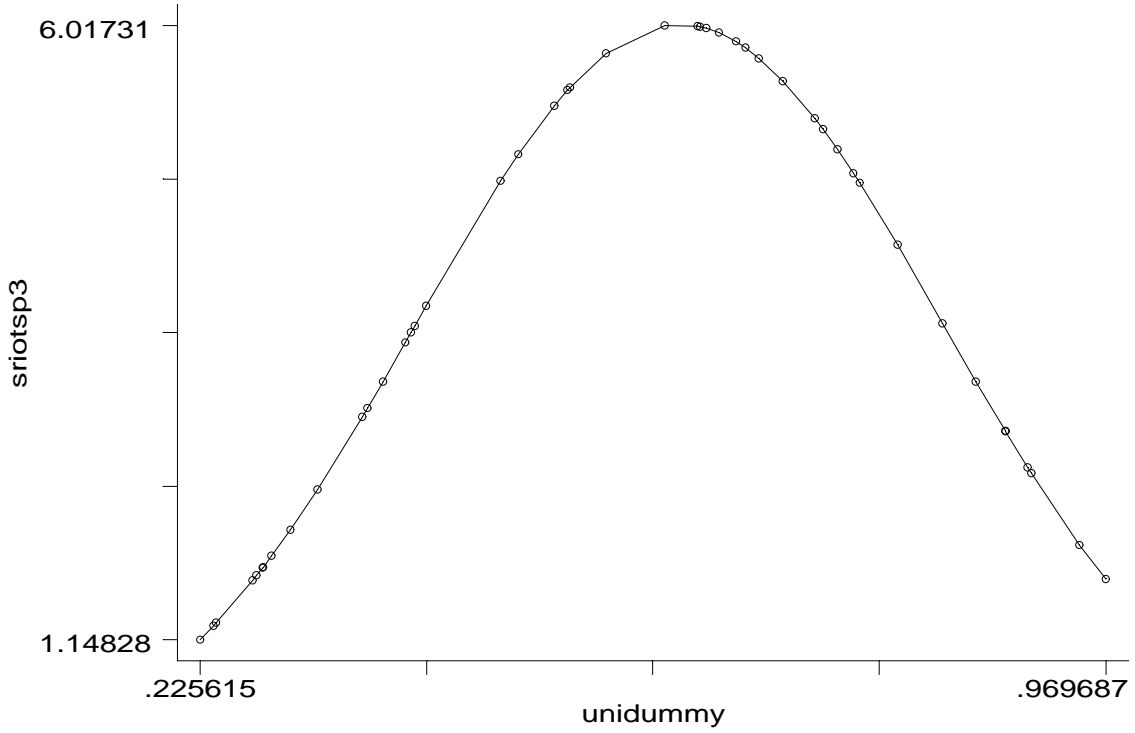
Performance

Percentiles	Obtained Number	Predicted Number
25	0	2.341
50	2	3.645
75	5	5.504
99	26	6.017

Table 10.2

Total Number of Riots

1) Predicted Values of Total Number of Riots vs. Ethnicity



2) First Difference Effects of Total Number of Riots

Variable X	Estimated coefficient	Change in X (from, to)	First difference
Education	-3.670	(0.035, 0.8)	-6.857
Urbanization	8.573	(0.05, 0.74)	191.676
Income	-0.144	(5.8, 8.2)	-1.050
Language	-1.110	(0.05, 0.95)	-4.143
Ethnicity	13.240	(0.19, 0.62)	5.187
Ethnicity ²	-10.686	(0.036, 0.384)	
Ethnicity	13.240	(0.62, 0.99)	-4.636
Ethnicity ²	-10.686	(0.384, 0.98)	
Youth	19.859	(0.41, 0.55)	9.231
Constant	-11.513		

Table 11.1

Dependent Variable: Total Number of Demonstrations

Independent Variables	Coefficient	Robust Std. Error	t-stat.	P > t
Education	-2.751	0.768	-3.584	0.000
Urbanization	7.618	2.900	2.627	0.009
Income	-0.494	0.643	-0.768	0.442
Language	-1.406	0.491	-2.861	0.004
Ethnicity	9.023	5.168	1.746	0.081
Ethnicity²	-7.517	3.868	-1.943	0.052
Youth	19.489	4.691	4.155	0.000
Constant	-7.634	3.234	-2.361	0.018

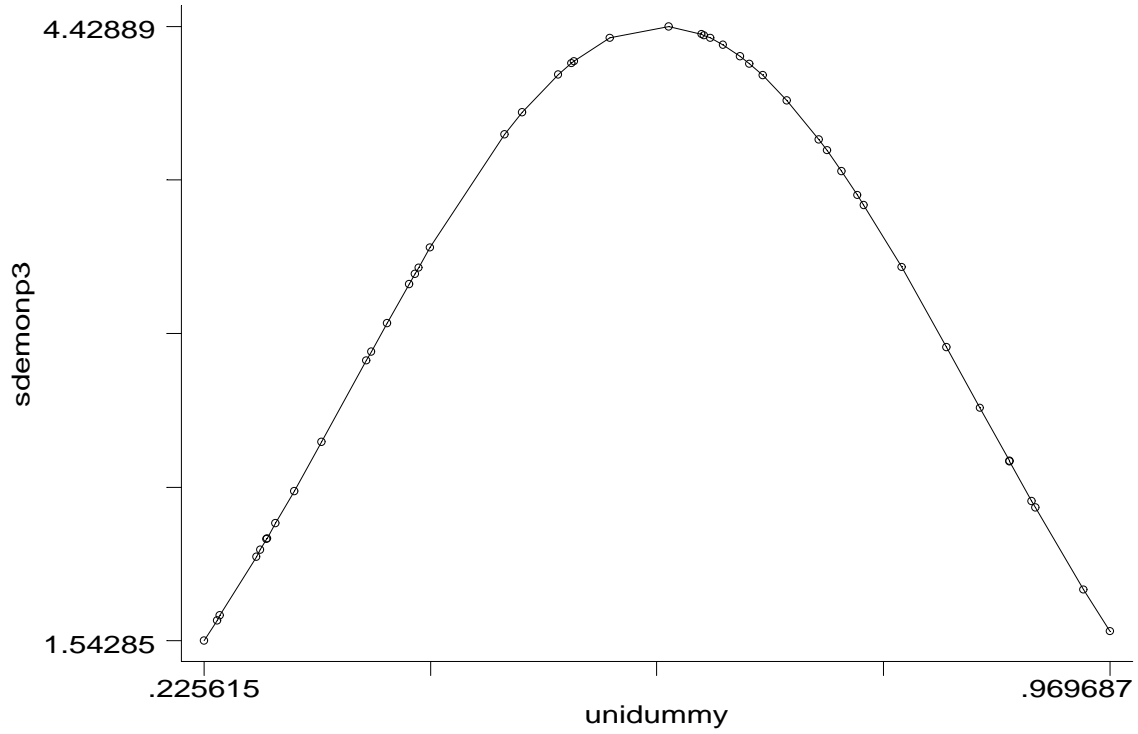
Performance

Percentiles	Obtained Number	Predicted Number
25	1	2.199
50	2	3.281
75	6	4.199
99	21	4.429

Table 11.2

Total Number of Demonstrations

1) Predicted Values of Total Number of Demonstrations vs. Ethnicity



2) First Difference Effects of Total Number of Demonstrations

Variable X	Estimated coefficient	Change in X (from, to)	First difference
Education	-2.751	(0.035, 0.8)	-4.758
Urbanization	7.618	(0.05, 0.74)	111.091
Income	-0.494	(5.8, 8.2)	-3.317
Language	-1.406	(0.05, 0.95)	-5.291
Ethnicity	9.023	(0.19, 0.60)	3.180
Ethnicity ²	-7.517	(0.0361, 0.36)	
Ethnicity	9.023	(0.60, 0.99)	-3.016
Ethnicity ²	-7.517	(0.36, 0.98)	
Youth	19.489	(0.41, 0.55)	8.285
Constant	-7.634		

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