

ETHNIC CONFLICT AND POLITICAL VIOLENCE: A CROSS-NATIONAL ANALYSIS¹

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Cross-national research demonstrates that both ethnic separatist movements and ethnic fractionalization have important effects on levels of political violence. However, indicators of fractionalization and separatism have rarely been considered in the same model. Researchers have also failed to ground analyses of political violence in a theory of ethnic conflict. We develop a revised model based on ethnic competition and split labor market theories. We argue that separatist intensity should increase levels of political violence and fractionalization should decrease levels of political violence. Our analyses support these hypotheses across a number of different model specifications and suggest that the insights of competition and split labor market theories be integrated into studies of political violence.

Research suggests that the more salient a nation's ethnic divisions, the greater the underlying propensity for internal conflict and political violence (see Boswell and Dixon 1990, 1993; Gurr 1970; Muller 1985; Muller and Seligson 1987; Sigelman and Simpson 1977). However, analysts have not employed consistent measures nor clearly delineated the mechanisms through which ethnic relations affect levels of political violence. Further, cross-national political violence research has failed to sufficiently distinguish (both theoretically and empirically) *ethnic mobilization* from *ethnic diversity*. We develop a cross-national model that more completely addresses the links between ethnic relations and political violence.

Researchers have typically examined the effects of ethnicity on political violence using one of two indicators: the *intensity of ethnic separatist movements* or *ethnic fractionalization* (though the former is more common).

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However, separatism and fractionalization have different implications for understanding ethnic relations and should affect levels of political violence in fundamentally different ways (also see Boswell and Dixon 1993, pp. 691-92). Separatist intensity represents the degree to which an ethnic community is mobilized and politically active around its minority status. Ethnic fractionalization reflects the extent to which smaller ethnic units (which may or may not be mobilized in a struggle for resources or political power) divide the national population. Thus, separatism involves a significant degree of ethnic mobilization while fractionalization reflects ethnic diversity.

We attempt to fill a gap in the literature by theoretically linking ethnic relations to political violence. We argue that ethnic diversity should reduce political violence (holding separatist intensity constant). Separatist mobilization will increase levels of political violence because established ethnic movements provide a vehicle for the organization of discontent. Ethnic diversity (absent organized separatist movements) will reduce political violence because it implies internal divisions that may impede collective action. Our approach is based on split labor market and ethnic competition theories, which help to explain when and how ethnic divisions and separatism affect collective action.

COMPETITION AND SPLIT LABOR MARKET THEORIES

Competition theory and split labor market theories focus on "the conditions under which ethnic mobilization and ethnic identity supersede other potential loyalties and political cleavages" (Olzak and Nagel 1986, p. 3). Both approaches hold that competition for resources produces ethnic conflict and maintains ethnic divisions within nations. Immigration, migration, and processes of economic development increase competitive ethnic relations in both models. However, split labor market research demonstrates that ethnic competition undermines collective action, while competition theory suggests that ethnic competition can facilitate mobilization. These are not contradictory positions. Rather, each theory points to the conditions that either erode or promote collective action. A brief discussion of each theory will clarify the theoretical similarities and differences.

Competition theory builds on resource mobilization arguments (Olzak 1992; also see Olzak and Nagel 1986). It argues that increases in an ethnic group's resources augment the potential for and the feasibility of ethnic collective action. Competing groups are more likely to mobilize in a way that reinforces ethnic divisions if ethnicity has clear economic,

political, or demographic advantages. The approach stresses that ethnic mobilization is best understood as "a process of emergent group interests rather than simply the manifestation of primordial sentiments" (Nagel and Olzak 1982, p. 127). As such, the salience of ethnicity is situationally determined (Olzak 1982). One way for an ethnic group to increase resources is to move out of segregated or low-wage occupations. Thus, a reduction in inequality may heighten ethnic conflict (Olzak 1992, pp. 37-38). Increased resources, in turn, stimulate ethnic mobilization. Immigration, migration, and economic contraction intensify ethnic labor market competition, which also raises the likelihood of ethnic collective action (Olzak 1987, 1992).

Split labor market theory also views ethnic antagonism as the result of competitive economic processes. According to Bonacich (1972, p. 549), a split labor market exists when the cost of labor differs along ethnic lines, holding constant worker skill and efficiency. The weaker an ethnic group in terms of political and economic resources, the lower its labor costs (Bonacich 1972). Their vulnerability often means that minorities will work at jobs shunned by others, will work for lower wages, and will eschew unionization. Migration exacerbates differences in motives (such as whether workers have a long-term or short-term orientation to employment) and affects labor costs. Migration also increases labor market competition, causing groups to employ ethnicity-specific strategies to protect their interests (Bonacich 1972, pp. 555-558). For instance, dominant workers may attempt to ban minority employment and minority labor may break strikes to access jobs. The development of a split labor market links labor costs to ethnicity, inhibits class loyalty, reinforces ethnic divisions, and undermines collective action (see Bonacich 1972, 1975, 1976, 1979; Boswell 1986; Boswell and Jorjani 1988; Brown and Boswell 1995).

Split labor market theory and competition theory agree on a number of points. First, direct labor market competition (not segmented labor markets as postulated by other theories) is the source of ethnic antagonism and ethnic mobilization. Second, processes of development, desegregation, and migration facilitate direct competition in the labor market. Third, the development of ethnic group interests (not primordial sentiments) stimulates antagonism and mobilization. Fourth, economic contractions intensify ethnic competition. Finally, ethnic differences in the cost of labor foster ethnic antagonism and mobilization (Bonacich 1972; Boswell 1986; Olzak 1992; Olzak 1987; Nagel and Olzak 1982).

For split labor market theory, ethnic antagonism makes the mobilization of broad-based collective action problematic because it initiates or reinforces internal working class divisions (Brown and Boswell 1995). To the extent that a population is ethnically diverse (but not mobilized around

a separatist agenda), the theory predicts greater internal dissention and ineffective collective action against capitalists or the state. In short, split labor market research demonstrates that ethnic diversity inhibits broad-based mobilization, which should decrease the probability of political violence. However, competition theory shows that when a minority group explicitly mobilizes around ethnicity, increases in resources will produce collective action and conflict (Olzak 1992). Because separatist movements challenge state authority, separatist mobilization will be more likely to result in political violence. Thus, *ethnic divisions increase levels of political violence if ethnic groups support mobilized separatist movements.*

Given the postulates of split labor market and competition theories, ethnic diversity should decrease collective action and political violence, controlling for separatist mobilization. Conversely, when ethnicity provides a means for mobilization, it should increase the likelihood of political violence. Below we provide an overview of cross-national political violence research and examine how analysts have conceptualized the role of ethnicity.

CROSS-NATIONAL MODELS OF POLITICAL VIOLENCE

Much cross-national research on political violence has examined the assumptions of relative deprivation and resource mobilization approaches (Snyder 1978).² Previous studies of political violence have focused on the effects of inequality, regime repressiveness, governmental sanctions, and level of national development. What has emerged from this body of work is a model that includes components of both relative deprivation and resource mobilization arguments. In particular, Muller's (1985) model has been replicated (London and Robinson 1989; Weede 1986) and has provided a foundation for subsequent research in both the relative deprivation and resource mobilization frameworks (see Boswell and Dixon 1990, 1993; Muller and Seligson 1987; Robinson and London 1991). We trace the evolution of the model and address some of the methodological and theoretical issues it raises.

There has long been an assumption that inequality breeds political violence (see Muller 1985; Sigelman and Simpson 1977). This view is an important pillar of the relative deprivation argument. Relative deprivation

² Boswell and Dixon (1993) examine Marxist theory's application to cross-national research on rebellion. While the interpretation of variables differs, their measurements are similar to those used (with the exception of a novel measure of class exploitation). Space limitations prevent us from considering Marxist or other theories here.

theory holds that "the gap between individuals' expected and achieved welfare . . . generates discontent" and increases the propensity for collective violence (Snyder 1978, p. 502). Much of the research in this area has attempted to uncover the mechanisms through which the unequal distribution of economic resources or land may foster political conflict. These mechanisms are not always easily discernable, as inequality may partially be a function of international dependence or incorporation into the world economy (London and Robinson 1989). In contrast, resource mobilization theory takes collective action as "problematic rather than inevitable" and argues that the degree to which participants effectively organize discontent is the crucial factor (Snyder 1978, p. 505). In this approach, inequality is a necessary (but not a sufficient) condition for collective action.

Sigelman and Simpson (1977) find that inequality is related to political violence, but their study does not support earlier theories of a curvilinear relationship (Davis 1948; Nagel 1974). Sigelman and Simpson (1977, p. 109) argue that ethnic divisions may aggravate existing frustrations caused by inequality. Or, if ethnic divisions "cut across rather than reinforce the economic stratification system," they may actually serve to moderate political violence. Although the effects of ethnicity are weakly theorized, this argument is closely related to our own. Sigelman and Simpson (1977) find that ethnic fractionalization ("heterogeneity") significantly increases political violence, though they do not control for separatist movements. As a result, they cannot test for bi-directional effects.

Muller's (1985) work supports the relative deprivation thesis and demonstrates that resource mobilization factors are also significant. Using regime repressiveness as an indicator of the availability of political opportunities, Muller finds that intermediate levels of repression increase political violence. In short, the potential for violent collective action is high where a semi-repressive political structure inhibits nonviolent action but permits the mobilization of resources for the organization of collective discontent. Muller finds that separatist intensity increases political violence, though it is not significant in most of his equations. Muller's findings regarding inequality and the non-monotonic relationship between regime repression and political violence have been supported by later studies. Further, his underlying model has been widely replicated, critiqued, and refined (Boswell and Dixon 1990, 1993; London and Robinson 1989; Muller and Seligson 1987; Robinson and London 1991).

The analyses below test the effects of separatist intensity and fractionalization on political violence by introducing these variables into five separate (but related) equations that derive from Muller's (1985) model and subsequent research. These are: (1) Muller's (1985) equation 3.2, (2) Muller

and Seligson's (1987) equation 1.2, (3) Muller and Seligson's (1987) equation 2.1, (4) London and Robinson's (1989) equation 1.3, and (5) Boswell and Dixon's (1990) equation 1.2. These equations include a set of "core variables" that have been found to significantly affect political violence. Thus, we consider the impact of fractionalization and separatist intensity across a range of equations that cross-cut recent political violence research.

DATA AND MEASURES

The sample for this study consists of 64 nations. Specific sample sizes vary depending on the variables included in each equation and the related availability of data. This sample is not random because levels of development affect data availability. However, Sigelman and Simpson (1977, pp. 115-17) demonstrated that their sample of nations was similar to the total population of nations.³ Because the nations included in this study are similar to the sample used in Sigelman and Simpson (1977), we are confident that the sample is representative.

THE DEPENDENT VARIABLE

The dependent variable for this study is deaths from political violence averaged from 1973 to 1977, logged, and weighted by the mid-year population size (Taylor and Jodice 1983a; also see Muller 1985).⁴ According to Weede (1981), this is probably the best of several measures of political violence, and has been the most widely used measure. One of our equations (1.5) uses a more restrictive measure of rebellious political violence to facilitate a replication of Boswell and Dixon's (1990) findings. All other equations use deaths from political violence. Following previous research, we include a lagged version of the dependent variable (deaths from

³ Sigelman and Simpson compare the mean, minimum values, maximum values, and standard deviations between their sample of 49 nations and the total population of nations for the following variables: population size, GNP/capita, school enrollment, ethno-linguistic heterogeneity, urbanization, and internal war. Their 49 nation sample provides the basis for the expanded sample used in the present study.

⁴ Following London and Robinson (1989), we log the dependent variable as $\ln[(y + 1)/\text{population}]$. Thus, countries with large populations but no political violence are ranked as less violent than smaller countries with no violence. Alternatively, Muller (1985) uses $\ln[(y/\text{population}) + 1]$. In his formulation all countries with no violence receive a zero score, regardless of population size. Given that social diversity tends to increase with population size, we think that the former measure is a better way to sample highly peaceful societies. We ran all the equations in this paper using both methods and results were similar.

political violence from 1968 to 1972) as an exogenous factor to account for a "heritage of political violence" (see Boswell and Dixon 1990).

FRACTIONALIZATION

We use data from Taylor and Hudson (1972) as an indicator of the extent to which a given population is divided into multiple ethnic groups. Technically, fractionalization measures the probability that two randomly selected individuals in a given nation will not speak the same language. Taylor and Hudson (1972, pp. 216-217) argue that language differences are highly correlated with ethnic diversity. Muller (1985) points out that ethnic fractionalization changes slowly, thus the fifteen year lag between the dependent variable and the measure of fractionalization should not compromise the analysis. Controlling for separatist intensity, we expect that fractionalization will decrease political violence in keeping with the arguments of split labor market analysis.

SEPARATIST INTENSITY

Taylor and Jodice (1983a) measure separatist intensity on a five-point scale (0-4). Higher values indicate more intense separatism circa 1975. Our measures of separatist intensity and fractionalization correlate at .64. To replicate some of the models below, we follow Muller and Seligson (1987) by transforming the ordinal scale into a dummy variable (3 or 4 equals 1, all else equals 0). Based on competition theory, we expect that intense separatism will increase political violence. Earlier research supports this hypothesis (Boswell and Dixon 1990, 1993; Muller 1985; Muller and Seligson 1987).

ECONOMIC GROWTH

We measure economic growth as the annual percentage growth rate of real GDP per capita, averaged over 1965-1975 (Summers and Heston 1988). We include economic growth to control for increases and decreases in resources that may accrue to members of ethnic groups. Net of the effects of growth, the positive effect of separatism and the negative effect of fractionalization should be most apparent. Average annual increases in GDP are probably a weak proxy for resource increases, especially for minority ethnic groups. In non-egalitarian societies the benefits of economic growth will be disproportionately distributed to dominant ethnic groups. However, absent a more appropriate measure, we include economic growth

in our models. In keeping with relative deprivation arguments, we expect that growth will reduce levels of political violence.

INCOME INEQUALITY

We measure income inequality as the share of income accruing to the richest twenty percent of the population, circa 1970. Muller (1985) offers data for 51 countries while Muller and Seligson (1987) provide data for 85 countries (also see Chan 1989). We use Muller's (1985) earlier compilation to facilitate replication, but use the expanded data in our revised models. We expect that income inequality will increase levels of political violence, a hypothesis supported by prior studies (Boswell and Dixon 1990, 1993; Muller 1985; Muller and Seligson 1987; Sigelman and Simpson 1977).

ECONOMIC DEVELOPMENT

We employ two measures of economic development, logged energy consumption per capita in 1970 (Ballamer-Cao and Scheidegger 1979) and logged real GDP per capita averaged over 1968-1972 (Summers and Heston 1988). Though the measures correlate highly (at .94), we consider the effects of each indicator in our models. Muller (1985), Muller and Seligson (1987), and Boswell and Dixon (1990) have found that development increases political violence, which supports resource mobilization arguments. In keeping with this research, we expect that development will increase political violence.

NEGATIVE SANCTIONS

We measure negative sanctions as government imposed political sanctions averaged over 1973-1977, logged, and weighted by midyear population (Taylor and Jodice 1983b). Previous research has predicted a negative lagged impact and a positive instantaneous impact on internal conflict, though we exclude the lagged version of this variable for the sake of parsimony and because it has a weak, nonsignificant effect (see Muller 1985). We expect that negative governmental sanctions will increase levels of political violence, in keeping with relative deprivation arguments. This prediction is supported by a number of studies (Boswell and Dixon 1990; Muller 1985), although Robinson and London (1991) find that sanctions have insignificant effects.

REGIME REPRESSION

We measure regime repression as the average annual rating of political rights and civil rights scores over 1973-1977 (Taylor and Jodice 1983a). In support of resource mobilization arguments, Muller (1985) and Muller and Seligson (1987) have demonstrated that political violence is most likely in countries with moderate repression and intermediate resources. Following Muller (1985), we operationalize this variable by including regime repressiveness and its square in the same model. Muller and Seligson (1987) modify this variable (which reduces multicollinearity) by introducing a single dummy variable that captures that apex of the inverted "U" curve implied by regime repression and its square ("semi-repressive regime"). We code the dummy variable 1 if the average annual combined score falls between 5.2 and 11.0 and we code it 0 otherwise (see Muller and Seligson 1987; Taylor and Jodice 1983a). We examine both measures of regime repressiveness in our equations. We expect that intermediate levels of governmental repression will increase levels of political violence.

TRANSNATIONAL CORPORATE PENETRATION

We measure TNC penetration as the square root of the product of (1) capital stock controlled by foreign direct investment as a proportion of total capital stock and (2) capital stock controlled by foreign direct investment divided by the total population (Bornschieer and Chase-Dunn 1985). We log the variable to correct for skewness. London and Robinson (1989) argue that the effects of inequality are negligent net of the impact of transnational corporate penetration. They base this argument on Bornschieer and Chase-Dunn's (1985) work, which supports the theory that TNC penetration fosters inequality in developing nations. Thus, TNC penetration increases the propensity for political violence via an indirect effect on income inequality (London and Robinson 1989, p. 305). Although their later work (Robinson and London 1991) calls this finding into question, we enter this variable into the model in order to replicate London and Robinson's (1989) work.

We examine the preceding variables (plus an interaction term between inequality and regime repressiveness) to determine if the hypothesized positive and negative effects of separatist intensity and fractionalization hold in five key models of political violence. The first six exogenous variables comprise the core model; the remaining five variables represent modifications suggested by Muller (1985), Muller and Seligson (1987), London and Robinson (1989), and Boswell and Dixon (1990). Further, we substitute alternate measures of inequality and development and

put ceilings on the dependent and lagged dependent variables to evaluate the robustness of our findings.

ANALYSIS AND RESULTS

First, we reproduce the results from the original studies. Table 1 presents five replicated models, using the same variables and measures found in the original equations. The replicated equations do not differ significantly from the findings initially reported by Muller (1985), Muller and Seligson (1987), London and Robinson (1989), and Boswell and Dixon (1990).⁵ The positive impact of income inequality is significant in all equations but 1.4 (where we include TNC penetration), and our replications support the non-monotonic relationship between regime repression and deaths from political violence. In equations 1.2, 1.3, and 1.4, the effect of separatist intensity is significant and in the hypothesized direction. Thus, our replications support the finding that ethnic separatism increases levels of political violence.

Next, we consider the effects of fractionalization, separatist intensity, and economic growth over all five models. Following Muller (1986), Boswell and Dixon (1990), and London and Robinson (1991), we place a ceiling on deaths from political violence to reduce the problem of outliers and to retain as many cases as possible in the analysis.⁶ We use Cook's D as the primary means of identifying outliers (see Muller 1986). Cook's D reveals whether an individual data point has "an extreme combination of scores on the independent variables" and evaluates the effect on residuals when a

⁵ We took the following steps to facilitate replication: (1) Muller's negative sanctions variable is for 1973-77 (equation 1.1); London and Robinson's is from 1968-75 (equation 1.4). All equations in subsequent tables use negative sanctions from 1968-1975. (2) Muller and Seligson (1987) and Boswell and Dixon (1990) both use a dummy variable for separatist intensity (equations 1.3 and 1.5). All equations in subsequent tables use the original five-point scale. (3) Boswell and Dixon's dependent variable is deaths from violent rebellion (equation 1.5) but the more widely used deaths from political violence measure is used in all subsequent equations. (4) Muller (1985) excludes Taiwan and the United Kingdom (equation 1.1); Muller and Seligson (1987) exclude Ireland and Pakistan (equation 1.3). (5) Muller and Seligson (1987) and Boswell and Dixon (1990) use a ceiling on the dependent and lagged dependent variable (equations 1.3 and 1.5). One-tailed significance tests are employed throughout, as the direction of the relationships was hypothesized a priori.

⁶ Following Robinson and London (1991), we set a ceiling at two standard deviations from the mean. In contrast, Muller uses a ceiling of fifty deaths per million. We employed both methods on all the equations in these analyses and obtained similar results.

TABLE 1. OLS COEFFICIENTS FOR REGRESSION OF POLITICAL VIOLENCE ON SELECTED INDEPENDENT VARIABLES: REPLICATED MODELS OF POLITICAL VIOLENCE

	(1.1)	(1.2)	(1.3)	(1.4)	(1.5)
Separatist Intensity		.88*** (2.40)	.87*** (2.39)		1.25*** (3.77)
Economic Growth					-8.46* (-1.60)
Deaths from Political Violence, 1968-1972 (log)	.31** (2.14)	.44*** (3.52)	.44*** (3.55)	.69*** (5.26)	.35*** (2.98)
Economic Development (log)	.28* (1.51)	.18** (1.67)	.18* (1.62)	.74*** (3.09)	.53*** (3.18)
Income Inequality	.04** (1.81)	.04** (2.27)	.03** (1.77)	.05 (1.29)	.04*** (2.53)
Negative Sanctions (log)	.68** (1.74)	.23 (1.18)	.26* (1.33)	-.03 (-.11)	
Regime Repressiveness	.71** (2.30)			1.09*** (2.55)	.50*** (2.58)
Regime Repressiveness ²	-.05** (-2.29)			-.07** (-2.30)	-.03** (-2.23)
Semi-repressive Regime		.77*** (2.49)			
Semi-repressive Regime X Income Inequality			.02*** (2.72)		
Transnational Corporate Penetration (log)				.41** (2.30)	
Intercept	-5.74	-3.21	-2.84	-16.48	-6.97
Adjusted R ²	.45	.50	.51	.58	.53
F Ratio	7.60	10.73	11.14	9.91	10.58
N	49	60	60	47	61

*p < .10; **p < .05; *** p < .01 (one-tailed tests)

t-ratio in parentheses

given case is omitted (Robinson and London, p. 134). If Cook's D revealed outliers, we eliminated them from the analysis.

Table 2 presents the results from the first set of equations that employ both fractionalization and separatist intensity. All equations in Table 2 use the original measures of income inequality and development.⁷ The effects of fractionalization and separatist intensity are significant and in the hypothesized directions. The greater the separatist intensity, the more deaths from political violence. The greater the ethnic fractionalization, the lower the level of political violence. This supports our major hypothesis: fractionalization and separatism have contrasting effects on the dependent variable and these results are consistent across all five equations.

The effects of the remaining variables are generally significant and in the same direction as in the original models. The insignificant effect of TNC penetration is incongruent with London and Robinson's (1989) findings. However, given their subsequent qualifications this is not surprising (Robinson and London 1991). Interestingly, the R^2 increases for all equations in Table 2, with the exception of equation 5. This suggests that we have improved the "goodness of fit" by including fractionalization with separatist intensity in the equations. The decline in the R^2 for equation 2.5 is related to the substitution of deaths from political violence for Boswell and Dixon's (1993) original deaths from violent rebellion measure.

To assess the robustness of our initial findings, we make several changes to the equations to determine if they mediate the effects of the ethnic variables. Table 3 presents the same five models using the updated measure of inequality the updated measure of development in all five equations. Introduction of the updated measures raises the number of cases to at least 60 for all equations. We have also removed the ceiling on the dependent and lagged dependent variables. The R^2 for equations 3.1 and 3.4 has decreased relative to the comparable equations in Table 2, although it still remains reasonably high. Again, the hypothesized effects of fractionalization and separatist intensity are significant and in the expected directions. Levels of significance have changed slightly (most notably for economic growth), but most of the same variables remain significant. The indicators that reflect semi-repressive regimes (and the interaction term) are now only marginally significant. This may indicate that Muller's (1985; Muller and Seligson 1987) findings depend upon the inequality data used. However, Muller's results have been supported by numerous other studies,

⁷ The difference in N's revealed in Table 2 is due to the use of the original inequality measures in equation 2.1 and 2.4, for which fewer cases are available. We also use the original development measure, energy consumption per capita, in equations 2.1 through 2.4.

TABLE 2. OLS COEFFICIENTS FOR REGRESSION OF POLITICAL VIOLENCE ON SELECTED INDEPENDENT VARIABLES: MODELS WITH ETHNIC VARIABLES, ORIGINAL MEASURES OF ECONOMIC DEVELOPMENT AND INEQUALITY, CEILING

	(2.1)	(2.2)	(2.3)	(2.4)	(2.5)
Ethnic Fractionalization	-2.45** (-2.21)	-3.21*** (-3.13)	-3.29*** (-3.21)	-2.11** (-1.81)	-2.39*** (-2.53)
Separatist Intensity	.46** (2.09)	.58*** (2.67)	.59*** (2.69)	.46** (2.08)	.44** (2.28)
Economic Growth	-43.88*** (-3.26)	-47.89*** (-3.71)	-47.22*** (-3.69)	-35.37*** (-2.49)	-27.22** (-2.22)
Deaths from Political Violence, 1968-1972 (log)	.42*** (2.55)	.56*** (4.46)	.57*** (4.52)	.46*** (2.72)	.48*** (4.05)
Economic Development (log)	.61** (2.17)	.69*** (3.02)	.65*** (2.91)	.65** (2.23)	1.07*** (2.87)
Income Inequality	.11*** (3.50)	.13*** (4.19)	.11*** (3.50)	.09** (2.26)	.09*** (3.20)
Negative Sanctions (log)	.63** (1.99)	.23 (1.11)	.25 (1.19)	.49* (1.32)	
Regime Repressiveness	1.05*** (2.42)			1.16*** (2.54)	.82** (2.19)
Regime Repressiveness ²	-.07*** (-2.45)			-.08*** (-2.48)	-.05** (-2.10)
Semi-repressive Regime		1.27*** (2.42)			
Semi-repressive Regime X Income Inequality			.02*** (2.47)		
Transnational Corporate Penetration (log)				.21 (1.12)	
Intercept	-10.58	-10.92	-9.95	-12.81	-17.30
Adjusted R ²	.69	.65	.65	.68	.47
F Ratio	11.43	12.63	12.72	9.37	7.87
N	43	52	52	41	62

*p > .10; **p < .05; ***p < .01 (one-tailed tests)

t-ratio in parentheses

TABLE 3. OLS COEFFICIENTS FOR REGRESSION OF POLITICAL VIOLENCE ON SELECTED INDEPENDENT VARIABLES: MODELS WITH ETHNIC VARIABLES, ALTERNATE MEASURES OF ECONOMIC DEVELOPMENT AND INCOME INEQUALITY, NO CEILING

	(3.1)	(3.2)	(3.3)	(3.4)	(3.5)
Ethnic Fractionalization	-1.83** (-1.99)	-1.84** (-2.04)	-1.91** (-2.11)	-1.88** (-2.01)	-2.07** (-2.24)
Separatist Intensity	.47*** (2.53)	.47*** (2.59)	.48*** (2.64)	.47*** (2.47)	.47** (2.51)
Economic Growth	-17.50* (-1.60)	-17.07* (-1.58)	-16.81* (-1.57)	-14.82* (-1.31)	-15.05* (-1.36)
Deaths from Political Violence, 1968-1972 (log)	.47*** (3.95)	.49*** (4.24)	.50*** (4.31)	.47*** (3.83)	.53*** (4.62)
Economic Development (log)	.68** (1.84)	.63** (2.01)	.62** (2.01)	.66** (1.72)	.88*** (2.47)
Income Inequality	.09*** (3.50)	.09*** (3.38)	.08*** (2.88)	.06** (1.85)	.09*** (3.29)
Negative Sanctions (log)	.37** (1.76)	.34** (1.68)	.35** (1.70)	.26 (1.15)	
Regime Repressiveness	.53* (1.44)			.60* (1.56)	.65** (1.79)
Regime Repressiveness ²	-.03* (-1.46)			-.03* (-1.42)	-.04** (-1.72)
Semi-repressive Regime		.83* (1.57)			
Semi-repressive Regime X Income Inequality		.02* (1.63)			
Transnational Corporate Penetration (log)			.26* (1.37)		
Intercept	-11.83	-10.25	-9.77	-13.56	-15.52
Adjusted R ²	.52	.53	.53	.49	.50
F Ratio	8.28	9.58	9.63	6.67	8.58
N	62	62	62	60	62

*p < .10; **p < .05; ***p < .01 (one-tailed tests)

t-ratio in parentheses

some of which use the expanded income inequality data (see Boswell and Dixon 1990).

As a final test of the relationship between separatism, ethnic fractionalization, and political violence, we re-introduce the ceiling on the dependent and lagged dependent variables but retain the alternative measures of inequality and development to maximize the number of cases. We present the results in Table 4. Again, the indicators of separatism and fractionalization remain significant at the .05 level and their effect on the dependent variable is in the hypothesized direction. The remaining coefficients retain their signs and are significant at approximately the same level, although the R^2 for all equations has decreased.

While a comparison of results across Tables 2-4 reveals some variation in the estimated coefficients, the sample size, and the values for R^2 , ethnic fractionalization and separatist intensity remain consistently significant in all models. This holds true regardless of the sample size and does not depend on particular measures of development or inequality. The results also hold regardless of whether we employ a ceiling on the dependent variable. Thus, the finding that fractionalization has a negative impact on political violence when controlling for separatist intensity appears robust. Not only have we demonstrated consistent and significant effects, but the findings hold across several different model specifications, are not vulnerable to the deletion of outliers, and withstand alternate operationalizations of key variables.

CONCLUSION

The results of this study have provided consistent support for the hypothesis that fractionalization has a negative impact on political violence while separatist intensity has a positive effect. That the significance of the coefficients does not vary over a number of model re-specifications suggests that the positive and negative effects of the ethnic variables is robust. Further, this effect does not appear to be dependent upon a specific sub-sample of cases. The coefficients achieved the same levels of significance regardless of whether the regressions were based on data for 43 cases or for 62 cases. Somewhat perplexing, however, is the failure of the interaction term or the dummy variable (semi-repressive regime) to achieve significance in any of the model re-specifications presented in Tables 3 or 4. Likewise, regime repressiveness and its square fail to achieve a high level of significance using alternate measures of development and inequality. This is surprising because Muller (1985), Muller and Seligson (1987), and others have found very consistent support for the effects of these variables (Robinson and London 1991).

TABLE 4. OLS COEFFICIENTS FOR REGRESSION OF POLITICAL VIOLENCE ON SELECTED INDEPENDENT VARIABLES: MODELS WITH ETHNIC VARIABLES, ALTERNATE MEASURES OF ECONOMIC DEVELOPMENT AND INCOME INEQUALITY, CEILING

	(4.1)	(4.2)	(4.3)	(4.4)	(4.5)
Ethnic Fractionalization	-1.91** (-2.00)	-1.72** (-1.76)	-1.76** (-1.78)	-2.01** (-2.06)	-2.23** (-2.29)
Separatist Intensity	.44** (2.27)	.43** (2.18)	.44** (2.21)	.42** (2.16)	.44** (2.21)
Economic Growth	-19.79** (-1.73)	-19.46* (-1.65)	-19.28* (-1.64)	-17.77* (-1.50)	-17.01* (-1.46)
Deaths from Political Violence, 1968-1977 (log)	.40*** (3.21)	.46*** (3.67)	.46*** (3.68)	.39*** (3.07)	.47*** (3.82)
Economic Development (log)	.64** (1.67)	.40 (1.18)	.39 (1.16)	.65* (1.64)	.89** (2.37)
Income Inequality	.09*** (3.11)	.08*** (2.69)	.07*** (2.96)	.06** (2.36)	.08*** (2.81)
Negative Sanctions (log)	.45** (2.09)	.47** (2.14)	.48** (2.17)	.48** (2.17)	
Regime Repressiveness	.57* (1.50)			.65* (1.62)	.74** (1.91)
Regime Repressiveness ²	-.04* (-1.50)			-.04 (-1.43)	-.05** (-1.81)
Semi-repressive Regime		.50 (0.89)			
Semi-repressive Regime X Income Inequality			.009 (0.89)		
Transnational Corporate Penetration (log)				.23 (1.18)	
Intercept	-11.23	-7.05	-6.74	-12.93	-15.75
Adjusted R ²	.46	.46	.46	.43	.43
F Ratio	6.98	7.78	7.78	5.54	6.87
N	63	64	64	61	63

*p < .10; **p < .05; ***p < .01 (one-tailed tests)

t-ratio in parentheses

While these questions warrant further investigation, the results of this study have supported our primary hypotheses. We have shown that ethnic fractionalization and separatist intensity affect political violence in fundamentally different ways. This suggests that split labor market and competition theories provide insight into the relationship between ethnic relations and political violence. Though the impact of separatism on political violence is obvious and well-studied, the importance of ethnic fractionalization and split labor markets in undermining the solidarity of rebellious ethnic groups has received far less attention. The devastating violence in the former Yugoslavia has demonstrated not only the results of intense national separatism, but also the difficulty of organizing across ethnic factions. We expect that ethnic conflict will play an increasing role in fomenting political violence. Our results caution researchers to pay close attention to both types of ethnic divisions in future analyses.

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