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Laissez Fear: Assessing the Impact of Government Involvement in the Economy on Ethnic Violence

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Does government involvement in the economy promote ethnic peace, or does it contribute to ethnic violence? Two theories, grievances and opportunity, suggest that government involvement in the economy reduces ethnic violence. We present an alternative security-based logic that focuses on the role of economic rents in political competition. Our theory of insecurity predicts that free market economies reduce violent ethnic conflict by reducing fear and insecurity. We present statistical analyses, using data from the Minorities at Risk project and the Index of Economic Freedom, showing that government involvement in the economy increases ethnic rebellion. Our results suggest that the overall size of the public sector is less important than government interference with the market allocation mechanism. We conclude by discussing the policy implications of our findings.

The rise of globalization has raised questions about its impact in a variety of areas, including whether liberalized economies might exacerbate ethnic conflict (Chua 2003). Most believe that liberal economies pacify inter-state relations (Gartzke 2007; Oneal and Russett 1997; Rosecrance 1986),[1] but for much of the 1980s and early 1990s, economic liberalization and ethnic strife rose in parallel, suggesting a potentially dangerous relationship. General trends and anecdotes aside however, we know very little about the effects of government involvement in the economy on ethnic violence. This article seeks to remedy this deficiency and assess which economic policies are most successful in promoting ethnic peace. We seek to show that, contrary to popular belief, freer markets tend to reduce violent ethnic conflict.

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[1] But also see Barbieri (2002).

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Two prominent arguments suggest that extensive government involvement in economies reduces ethnic violence. One claims that ethnic groups prefer governments intervening in the economy to dilute the harmful effects of unfettered markets, such as an ethnically skewed income distribution. The second suggests that an economically active government can manage ethnic tensions more successfully because it has more resources at its disposal to prevent violent rebellion. By contrast, we find an opposing argument more convincing. We suggest that government involvement in the economy promotes ethnic violence by increasing the net benefits of rebellion. Other scholars (Barbieri and Reuveny 2005, 1230; Bardan 2005, 177–178; Hardin 1995; Snyder 1999) have made similar arguments, though this hypothesis remains inchoate. We seek to more fully develop this argument by clearly specifying the underlying motives of ethnic groups, and clarifying the importance of economic rents to group security. This revised ethnic security theory suggests that high levels of government involvement in the economy increase inter-ethnic fear and insecurity, and increase the likelihood that attempts to capture the state will turn violent.

To adjudicate among these contrasting arguments, we create a dataset that brings together information on these discrete issues—government involvement in the economy and communal strife. The main empirical finding of this paper is that ethnic violence is *more likely* when the state plays a *larger* role in the national economy than when its role is more limited. We also investigate which types of economic policies are most important, and find that government efforts to *reallocate resources* by controlling prices, credit and business regulations, are more detrimental to ethnic group relations than are policies relating to the *aggregate size of government*, such as government ownership and consumption.

Conceptualizing Government Involvement in the Economy

We define the term ''government involvement in the economy'' as the extent to which governments rather than markets determine the demand, supply, and price of goods and services. Government involvement in the economy is conceived of as a continuum with a laissez-faire liberal market economy on one end and high government intervention on the other end. The greater the extent to which demand, supply, prices, and hence economic welfare, is influenced by government decisions, the greater the level of government involvement in the economy; by contrast, when the impersonal forces of the market primarily determine profits and economic outcomes, the economy is characterized by low levels of government involvement.[2]

There are two dimensions to government involvement in the economy – share and allocation. Share refers to the relative sizes of the public and private sectors, and the share of resources that each commands. The greater the extent of public production and ownership in the economy, government spending and consumption, and the smaller the share of output produced and consumed by the private sector, the larger the state's share of the economy. The second dimension, allocation, refers to whether resources are distributed according to the market forces of demand and supply or by government decisions. Numerous government policies can interfere with the market's allocation of resources and affect the distribution of resources across firms and industries, such as: subsidies, price controls, business regulations, import tariffs and quotas, and controls on capital flows. Government involvement in the economy is highest when the government's share is large and when it allocates resources extensively. The

[2] Although neoliberalism is sometimes defined similarly to the lack of government involvement in the economy, we avoid this term because it is imprecisely defined and has multiple distinct meanings (Boas and Guns-Morse 2006).

economy approximates the liberal market end of the continuum when market allocation is combined with predominantly private ownership.

The Conventional Wisdom: Government Involvement Reduces Conflict

The economic dimensions of ethnic conflicts have been attracting growing attention from academics, policymakers, and the media. The debate so far has mainly centered on the relative importance of economic grievances and of resources as sources of funding for rebellion.[3] Researchers have paid surprisingly little attention to the effects of government involvement in the economy on the incidence and intensity of ethnic violence. Here, we review the arguments in the debate, focusing on their applications to the question at hand.

Opportunity Theory

Opportunity theorists argue that civil war is most likely when rebel capabilities are strong relative to those of the state.[4] This approach suggests two reasons why economic factors affect civil war propensity: Collier and Hoeffler (2002, 2005) stress that the economy shapes rebel groups' ability to form and sustain effective insurgencies, while Fearon and Laitin (2003) focus on how economic factors affect the state's capacity to suppress rebellion. Despite this difference, both argue that ''measures of low state capability relative to potential guerilla bands….are the best predictors of a state's civil war propensity'' (Fearon and Laitin 2004, 21–22).[5] According to this theory, poor countries are prone to civil war because it is relatively more attractive to join a rebel group when there is low income and growth compared to when there are better economic alternatives (Collier 2000; Collier and Hoeffler 2002). Low levels of national income also imply disproportionately limited tax revenues, which reduce the state's financial and military capabilities, and impair the state's ability to wage an effective counterinsurgency campaign (Fearon and Laitin 2003). Opportunity theory argues that the prevalence of primary commodities in the economy, particularly oil and diamonds, increases violent rebellions through two channels: they strengthen rebel groups by serving as a source of finance for them (Collier 2000; Collier and Hoeffler 2002; Lujala, Gleditsch, and Gilmore 2005), and they lead to weak state apparatuses, reducing states' ability to prevent rebellion (Fearon and Laitin 2003; Humphreys 2005). In sum, natural resource abundance and low income reduce the government's military capabilities while enhancing the ability of insurgent groups to wage war, thus increasing the likelihood of violent internal conflict.[6]

While opportunity theory has not explicitly considered the impact of government involvement in the economy on ethnic violence, its logic would suggest that greater government involvement in the economy should strengthen state capacity, weaken rebel capabilities, and thus reduce violent ethnic conflict. High levels of government involvement in the economy reduce insurgent capacity by

[3] Ballentine and Sherman (2003), Murshed (2002), and Ron (2005) are useful overviews.

[4] Opportunity models typically aggregate ethnic and other forms of internal strife into a single category of civil wars. It is appropriate to apply opportunity arguments about civil war in general to the subset which concerns us—ethnic violence—because the opportunity logic implies that the causes of ethnic and nonethnic civil wars are the same. By ethnic groups, we mean ''collective groups whose membership is largely determined by real or putative ancestral inherited ties, and who perceive these ties as systematically affecting their place and fate in the political and socioeconomic structures of their state and society (Rothschild 1981, 2).''

[5] Collier and Hoeffler seem to agree: though their early work focused on ''greed'' their recent work emphasizes ''feasibility'' (2005, 629).

[6] Weinstein (2007) argues that rebels in resource-rich areas behave differently—engage in more indiscriminate violence—than those in less abundant regions. Rather than focusing on opportunities provided by state weakness, Weinstein argues resource availability at the outset of a rebellion shapes the rebels' organization and its subsequent behavior.

reducing the resources rebel leaders could control (Herbst 2000; Roeder 1998). By contrast, free markets, like natural resource abundance and low income, enhance rebel strength: when the state does not perform economic functions, tribal leaders and secessionist warlords often take over in this realm. When the state plays a larger role in the economy, peripheral nationalist groups will control fewer resources, and they will be unable to wage large-scale insurgency. Liberal economic reforms have also been blamed for weakening state capacity and effectiveness (van de Walle 2001). Opportunity theory expects that shrinking government budgets and reducing government expenditures will hinder efforts at counterinsurgency, and promote rebellion (Fearon and Laitin 1999, 31–32; Snyder and Bhavnani 2005). In sum, the opportunity logic would expect free markets to contribute to violent ethnic conflict since free markets improve rebel capacity and reduce the state's capabilities, both of which encourage rebellious activity.

Grievance Theory

The starting point of grievance-based theories of ethnic rebellion is that economically and politically disadvantaged ethnic groups resent politically and advantaged groups, and use violence against such groups to try and improve their relative position (Gurr 2000; Petersen 2002). Although some theorists argue that politically and culturally based grievances are more important than economic ones (Reynal-Querol 2002; Sambanis 2001), it is commonly argued that economic inequality exacerbates intergroup grievances, making ethnic violence more likely (Gurr 1993b; Saxton 2005).

The argument that free markets cause violent ethnic conflict has been most forcefully made by Chua (2003) (see also Brysk and Wise [1997]. She argues that free markets concentrate enormous wealth in the hands of ethnic minorities, generate hatred and envy, and in turn encourage violent attacks against the privileged group.[7] Chua (2003, 1–5, 270–273) compares the anti-Chinese violence in the Philippines with its absence in Malaysia, arguing that free markets intensified Chinese economic dominance in the Philippines, whereas government intervention in Malaysia redressed ethnic imbalances, which reduced envy and conflict. Thus, ''restraining the worst excesses of markets'' is necessary for ethnic peace (Chua 2003, 266). Importantly, Chua's conceptualization of markets is similar to ours, arguing that increasing government share and government allocation both reduce ethnic violence (2003, 14, 267). Grievance theory as presented by Chua suggests that hatred and resentment contribute to ethnic violence, and these outcomes are less likely when governments intervene in the economy.

Ethnic Security, the State, and Rent-Seeking

It is commonly argued that insecurity is the primary source of inter-ethnic violence (de Figueiredo and Weingast 1999; Horowitz 1985; Lake and Rothchild 1996; Snyder and Jervis 1999). Ethnic groups that feel secure tend to co-exist peacefully, whereas those who feel insecure can turn violent. This security-based logic implies that factors that contribute to inter-ethnic fear and vulnerability make violence more likely. One prominent claim along these lines is that the collapse of the state exacerbates insecurities and promotes violence (Posen 1993). Many scholars take a broader view of insecurity than Posen's initial

[7] Chua, to be clear, in several places moderates these claims, suggesting that this only holds for countries with market-dominant minorities. However, since she argues that free markets influence the extent of ethnically based inequality, it is unclear whether market dominance is a scope condition or an intervening variable. Either way, Chua articulates an important argument that contradicts ours, and needs to be addressed.

formulation, arguing that state collapse is not the only source of insecurity, and ethnic groups often find powerful states threatening (David 1997, 560–561; Rummel 1994). The extant literature has noted a diverse set of sources that heighten insecurity, including: regime change (Snyder 1999); certain democratic institutions (Saideman et al. 2002); insecure leaders (Gagnon 1994/95); uncertainty about the other group's intentions (de Figueiredo and Weingast 1999); and an inability to credibly commit to agreements (Fearon 1998; Walter 2002).

Little attention has been paid to economic policies as mechanisms for reducing fear, vulnerability, and insecurity among ethnic groups. This omission results from the common assumption that economic issues are less relevant to ethnic conflict than cultural ones (for example: Connor 1984; Horowitz 1985, 225; Sambanis 2001). However, there is no a priori reason why economic issues should have less effect on ethnic vulnerability and insecurity than non-economic ones. In the following sections, we explain why government involvement in the economy is likely to increase ethnic violence. We first outline why ethnic groups care about economic issues, and then explain why government intervention in the economy contributes to inter-ethnic fear and vulnerability. Our theory brings together considerations of economic rent-seeking, security, and the economics of conflict—three issue areas which have thus far remained disconnected. In doing so, we provide a potentially useful depiction of the processes linking government involvement in the economy to ethnic violence.

Economic and Political Sources of Ethnic Security

The economic security theory starts with two basic premises about the nature of states and group security that will be used to derive propositions about the causes of ethnic violence. First, states are not neutral actors. Politicians typically use their power to benefit their own group, redistributing resources that they control toward their supporters and away from their political opponents (Hechter 1978; Horowitz 1985).[8] Simply put, state policy is biased. An individual's ethnic identity strongly affects whether government policies are harmful or beneficial to the person (Fearon 1998, 121). This fact is primarily the result of within-group political dynamics. Ethnic elites regularly supply rents to the masses of their group to prevent group members from switching support to hard-liners that less ambivalently champion the interests of their group.[9] Intra-group dynamics cause policy to be biased and prevent leaders of ethnic groups from credibly committing to treat other ethnic groups fairly (Fearon 1998; de Figueiredo and Weingast 1999; Gagnon 1994/95; Hardin 1995).

Second, security has several components, including an economic one (Lake 1996; Saideman 1998). Physical security refers to the ability of a group and the individuals making up that group to live their lives free of bodily harm. Political security is defined as the ability of ethnic groups to influence relevant government policy. Economic security refers to a group and its' members present and expected future job opportunities and income levels. Here, most relevant is the sense of economic threat individuals feel because of their identity, and the state's stance toward that group, and the consequences of that threat. Wealth is generally desired because holding it facilitates the attainment of other goals, including physical and political security. Holding wealth allows one to achieve numerous basic human needs and desires, and avoid atrocities such as starvation, undernourishment, child prostitution, and premature death from preventable diseases (Easterly 2001, 1–15; Sen 1999, 14). There are security-related reasons for ethnic

[8] For evidence across a range of cases, see Easterly and Levine (1997) and Esman (1997).

[9] Whether democratically elected or not, all politicians require some societal support in order to remain in power and accomplish their goals (Ames 1987; Mayhew 1974).

groups to care about their wealth, hence, government economic policies can strongly affect ethnic security.

Based on these two premises, it follows that ethnic groups often have incentives to gain control of the state, creating insecurity for all. Ethnic groups' concern for security arises because national governments distribute economic and other aspects of security unevenly. When a state cannot or does not provide security for ethnic groups, each group is left to provide it for themselves, since no higher authority will provide it for them. Control of the state allows group members to extract rents—a level of economic profits in excess of what would be received if market forces allocated resources.[10] Ethnic groups have strong incentives to capture the state, since doing so is the best means to improve their wealth and security.

The desire to control the state apparatus has an unfortunate consequence captured by the theory of the ethnic security dilemma. Group A's attempt to capture the state will confirm Group B's suspicions about A's intentions, causing Group B to try to capture the state; B's actions will heighten Group A's fear of not being able to control public policy, leading it to act accordingly, creating a spiral toward heightened tensions. Since controlling the policy organs of a state will allow groups to implement programs that benefit themselves at the expense of others, the desire to control the government apparatus may lead to internal war (Saideman 1998). The worst cases of ethnic conflict result from ethnic groups' competing attempts to control the state apparatus at the expense of other groups (Horowitz 1985, 187–189; Lake and Rothchild 1996; Snyder and Jervis 1999). It is often not the permissive environment of a weak state that causes the spiral toward ethnic violence, but the desire to control the state that encourages other groups to do the same.

Ethnic groups desire political power since it enables them to capture rents, which, in turn, reinforces their security. Although political power is always desirable, it will not always lead to violent ethnic conflict. It will only do so when groups are able to overcome collective action dilemmas to mount an effective rebellion.[11] Next, we will develop the theory further by explaining how the scope and nature of the state's economic activities can heighten or reduce insecurity and violence. We use this argument to explain why limited government will elicit less competition and thus less violence between ethnic groups.

Why Government Involvement in the Economy Increases Ethnic Violence

Since politicians distribute assets differently than markets (Stigler 1971), groups compete over the state to try and distribute resources as they please. The net benefits to ethnic groups of controlling a state that allocates credit to favored industries, redistributes income with tax-and-transfer programs, controls product prices and is responsible for employing much of the population, greatly exceed the benefits of controlling a laissez-faire government that only provides basic public goods that the free market would not produce. The stakes of political competition are higher when the government is more deeply involved in the economy. There are two related, but analytically distinguishable, reasons why high levels of government involvement in the economy increase inter-ethnic competition: rents and fear.

First, the more the government is involved in the economy, the greater are the benefits of controlling the state. There are fewer opportunities for rent-provision when the market allocates resources (Gerring and Thacker 2005). For example, a large state share of the economy means that investment can be directed toward favored businesses. Similarly, when the government regulates the financial sector,

[10] Control of the state is also attractive because a government's military resources can be used against other groups and because state control prevents other groups from using such resources against themselves (Horowitz 1985; Rummel 1994).

[11] Rebels' collective action dilemmas are not insurmountable (Lichbach 1994).

resources can be easily channeled to privileged cronies who reap huge gains (Bates 1981; Herbst 2000, 216). A large state share and allocation of the economy thus heightens incentives for elites to adopt belligerent tactics. Government involvement also makes it more likely that the masses will tolerate such strategies because average group members will also expect considerable benefits from controlling an interventionist state. Substantial government employment means more jobs for them (Esman 1997). Changes in price and wage controls, and which industries are sheltered from international competition, can greatly enhance the profits of entire sectors, and alter the well-being of large segments of the population (Bates 1981; Bussmann and Schneider 2007; Easterly and Levine 1997). Extensive government involvement also makes it easier for opposition groups to blame the government for undesirable economic outcomes, broadening the perception that running the state will solve the group's problems.[12] Since some level of popular support is often required for a large-scale rebellion, these greater gains to the population from controlling the state, both real and perceived, are potentially important. Lastly, markets lower the benefit of controlling the state, thus reducing the benefits of winning relative to the costs of fighting (Gartzke 2007; Hardin 1995), decreasing incentives for violent rebellion.

Second, the greater the extent of government involvement in the economy, the larger are the potential costs resulting from not controlling the state. Marcus Kurtz points out that when the market allocates resources, ''political decisions become less materially consequential for most citizens'' because markets ''remove a host of critical zero-sum conflicts from the political arena'' (Kurtz 2004, 273, 271). When the state apparatus allocates and controls few resources, groups are not dependent on the goodwill of politicians from other ethnic groups. On the other hand, with high levels of government involvement in the economy, the welfare of the group out of power will be highly dependent on the actions of another ethnic group. They should be concerned that their ethnic opponents have the ability, and likely the incentive, to redistribute income in a manner unfavorable to them. Higher levels of government intervention in the economy increase the extent to which a group's welfare depends on the will of others, which in turn increases vulnerability, fear, and insecurity. This fear, and the desire to prevent such an outcome, will heighten the likelihood of violence. When groups are less vulnerable to the actions of others, they are less likely to engage in violent conflict with them (de Figueiredo and Weingast 1999; Walter 2002). Since free markets reduce inter-group vulnerabilities, they reduce violence.

In sum, it is less likely that ethnic groups will compete aggressively over capturing a less relevant state, and violent clashes resulting from such competition should be less intense and less frequent. When the invisible hand of the market allocates resources, competition over the state should be lower than when the visible hand of an ethno-political entrepreneur allocates assets. Security-seeking behavior suggests that government involvement in the economy contributes to violent ethnic conflict, and that free markets should facilitate internal peace. With logics suggesting that government involvement in the economy might increase or decrease ethnic conflict, the question is, ultimately, an empirical one. In the next section, we discuss the data we use to determine the impact of freer markets and government involvement upon ethnic strife.

Methodology

Researchers have created datasets measuring both ethnic violence and government involvement in the economy, although this study is the first to bring them together. Indicators of government involvement in the economy have been taken

[12] We are grateful to one of the reviewers for suggesting this dynamic.

from the Heritage Foundation's Index of Economic Freedom (Miles, Feulner, and O'Grady 2005). This index ranks each country on a one-to-five scale, where higher values represent more government involvement in the economy. The economic freedom index is the average of ten other component variables, which are themselves created from numerous pieces of data. We will use this variable, which we label *intervention,* to test the hypothesis that government involvement in the economy increases ethnic rebellion.

This dataset is appropriate because the conceptualization of the key indicators are similar to our idea of the absence of government involvement in the economy. Economic freedom is defined as ''the absence of government coercion or constraint on the production, distribution, or consumption of goods and services.'' (Beach and Miles 2006, 56). Most of the ten components of *intervention* are directly related to either share or allocation—the two dimensions of government involvement in the economy. Two components reflect the government's share of the economy: fiscal burden, which includes information relating to tax rates and government expenditures; and, government intervention, which is a function of state consumption, output and ownership in the economy.[13] These two factors reflect the extensiveness of the state's aggregate role in the economy relative to the private sector. Five components of the economic freedom index are more closely linked to allocation: trade policy, which measures tariff and non-tariff barriers to international trade; capital flows and foreign investment, which measures restrictions on international capital and investment flows; banking and finance, which measures government ownership of the financial industry; state control over the allocation of credit, wages and prices, which measures price and wage controls and subsidies that affect the relative prices of goods and services; and regulation, which measures the extensiveness of government rules affecting business operations. Each of these five factors represents government policies that can be used to redistribute resources across industries and firms. Thus, seven of the ten categories are closely related to one of our two underlying dimensions of government involvement in the economy.

However, the three other categories—property rights, monetary policy, and informal economy—are less clearly related to our concept of government involvement. Property rights and informal markets are somewhat related to government share because a failure to enforce private property rights and the existence of extensive black markets implies that the private market is not robust. Extensive informal markets and violations of property rights are typically caused by government interference with the market. Similarly, interventionist monetary policies are typically the result of excessive government expenditures, and thus large state share. These three may also reflect attempts to reallocate resources across sectors. Nonetheless, these components are less directly related to government involvement in the economy than the others. Rather than being government interventions themselves, they are more accurately viewed as outcomes that result from extensive government involvement in the economy.

Due to the ambiguous status of the property rights, informal markets, and monetary policy components, we created a variable, *modified intervention*, which excludes these three components. We will use this variable in some analyses to address this potential concern. As a further robustness check, we will check if *Freedom House*'s economic freedom index (Gwartney and Lawson 2005) has similar effects on ethnic rebellion. The Freedom House index is a ten-point scale

[13] Thus, what the Heritage Foundation calls ''government intervention in the economy'' is quite different than how we use this term: they use this term much more narrowly than we do, and it is similar to our concept of ''government share.'' The Heritage Foundation data on government intervention focuses solely on government consumption and ownership of business, but not on the many other market interferences that we expect to shape ethnic politics, which are included in the other categories and thus the overall economic freedom score.

constructed in a similar fashion to the other index. The Heritage data is preferable, however, because it is available for a larger number of countries and for more years.[14] In addition, we created *share* and *allocation*: the former is the average scores of the two relevant components and the latter the average of its five underlying factors. These variables will allow us to estimate the direct impact of these two dimensions of government intervention on violent conflict.

The main weakness of using these economic freedom indices is their limited coverage over time: *intervention* exists only since 1995, and Freedom House has annual data only since 2000. This limits our ability to investigate the effects of government involvement in the economy for earlier periods of time. However, this measure has considerable advantages over the alternative variables. The most closely related analyses typically consider the effects of only a single aspect of government involvement in the economy on civil war. The most common is globalization, which has been measured typically as international trade's share of national income (Bussmann, Schneider, and Wiesehomeier 2005; Krause and Suzuki 2005; de Soysa 2002), and sometimes also as the share of income from foreign direct investment and foreign portfolio investment (Barbieri and Reuveny 2005; Bussmann and Schneider 2007). Others use a composite index of globalization that includes factors such as international travel, internet use, and membership in international organizations alongside dependence on the global economy (Ishiyama 2003). While opening the economy to the forces of international competition is undoubtedly an important part of economic liberalization, various theories suggest that many other domestic economic policies should also affect ethnic politics. Thus, one advantage of our measure over these is that it includes information on a larger number of relevant facets of government involvement in the economy.

Perhaps a more important problem with these other data is that they measure economic *outcomes*, not economic *policies*. Trade dependence is conceptually distinct from trade policies, and the former depends on a number of factors other than trade policy, such as geographic location (Rodriguez and Rodrik 1999).[15] While useful for some purposes, these studies are less helpful in assessing the effects of government policies on ethnic violence. Recent work by Bussmann and Schneider (2007) (see also Bussmann, Schneider, and Wiesehomeier 2005) is an important exception because they evaluate how two policy measures, government consumption and trade policy liberalization, affect the risk of civil war. However, they only include a variable measuring whether a change in trade policy took place, rather than the extent of liberalism in foreign economic policy, which is important, but different from our main concern. To our knowledge, this is the first investigation of how a government's general degree of interventionism influences the risk of violent ethnic conflict. In sum, there are two reasons why the index of economic freedom is more appropriate than other measures to test the rival hypotheses outlined above: this index more directly addresses the effect of economic policy on civil strife; and it incorporates information on a larger number of relevant policies.[16]

For the dependent variable—ethnic violence—the most appropriate dataset is Minorities at Risk (MAR) because it is the largest and most comprehensive dataset on this topic.[17] We have transformed MAR rebellion data to the national level

[14] The World Bank's Governance Indicators data set (Kaufman, Kraay, and Zoido-Lobaton 1999) is another related data set, but is less relevant because it focuses on governance quality and policy effectiveness, which is different from our primary concern—the degree of government involvement.

[15] Likewise, foreign investment is conceptually and empirically distinct from capital controls.

[16] The economic freedom indices have been used in a similar fashion by other political scientists. Gerring and Thacker (2005) and de Soysa and Neumayer (2005) are examples.

[17] See Gurr (1993a, 2000). MAR has faced some criticism for case selection, including only mobilized or discriminated groups (Hug 2003). We address this problem by performing analyses of all countries, MAR and non-MAR, where the countries without MAR groups are coded as zero for ethnic rebellion and other MAR variables.

because the independent variable of interest is a national-level attribute.[18] To do so, the *rebellion* score for a given year is measured as the maximum level of rebellion among the different groups in that year.[19] Thus, the dependent variable measures the highest degree of rebellion faced by the state in a given period. We also use Uppsala's *internal conflict* data, which focuses not only on ethnic but other forms of violent civil conflict, to assess the impact of government intervention on civil strife more generally. Both are ordered dependent variables—*rebellion* ranges from zero to seven and *internal conflict* from zero to three—where higher values represent larger-scale and more violent conflict. For all the measures of government intervention, higher values indicate more intervention. Thus, positive coefficients support our theory while negative correlations are what would be expected by opposing theories.

We include control variables that the existing literature suggest are important determinants of ethnic rebellion. *Income* per capita (divided by 1000), Log *Population*, Log *Mountainous* Terrain, and whether a country is an *Oil Exporter* are included as controls due their importance in opportunity theories of political violence.[20] Polity IV data was used to measure *Democracy* and *Regime Age*, which we include due to the prominence of claims that the nature of political regimes and democratic transitions affect ethnic conflict (Saideman et al. 2002; Snyder 2000). The former is the standard Democracy – Autocracy variable, and the latter is the number of years since the last regime transition. Previous studies have found a parabolic relationship between ethnic fractionalization and civil war (Sambanis 2001; de Soysa 2002), so we include the Soviet *Atlas Narodov Mira* data on *ethnic fractionalization* and its square as controls.[21] Since territorial concentration has been consistently found to increase ethnic rebellion (Saideman et al. 2002; Toft 2003), we control for this with a dummy, *high concentration*, which is equal to one if there are any ethnic groups in the country that are highly geographically concentrated, and otherwise is equal to zero.[22] MAR's *Economic Differences* is a seven-category scale of intergroup economic differentials, with the most economically advantaged groups scoring −2 and the most disadvantaged are given a 4. We include the maximum of that variable when aggregating to the state level to directly test Chua's expectation that inter-ethnic inequality increases ethnic violence.

Most of our tests use a single cross-section of data. In the cross-sectional regressions, we follow other users of MAR (such as Centinyan 2002; Gurr 1993b; Toft 2003) and use the maximum level of rebellion in a country over several years. We used the years 2001 through 2003, inclusive, because they are the most recent periods available. The Uppsala data is the maximum value for years 2001–2004. The independent and control variables are all from the year 2000, and are lagged a year to mitigate possible reverse causality. We do not focus our efforts on time series analyses because we have limited time points. Nonetheless, we present several analyses of time-series—cross-sectional data to assess the robustness of our findings. Table 1 displays the summary statistics for the cross-sectional data.

[18] We did run additional analyses with group-level data and found results very consistent with the state-level analyses. The next section provides more information on this issue.

[19] To illustrate with an example, in Indonesia in 2001, Acehnese rebellion measured as a 4; Papuan rebellion was 1 and Chinese rebellion was 0. Indonesia 2001 is scored a 4.

[20] They are taken from the World Bank's *World Development Indicators* and from Fearon and Laitin (2003).

[21] Posner (2004), among others, has been critical of both the various ethnic fractionalization indexes and their usage, given the theoretical assumptions that are often associated with them. We would use Posner's improved variant, but he only codes African countries.

[22] More precisely, if any ethnic group within the country has a 3 on the MAR group concentration variable, *high concentration* equals one.

Table 1. Summary Statistics

Variable	*Observations*	*Mean*	*Std. Dev.*	*Minimum*	*Maximum*
Rebellion	158	0.95	1.90	0	7
Internal conflict	159	0.39	0.86	0	3
Intervention	151	3.24	0.80	1.59	5
Freedom house	116	6.36	1.06	3.4	8.6
Modified intervention	151	3.28	0.71	1.84	5
Allocation	151	3.19	0.84	1.4	5
Share	151	3.49	0.65	2.15	5
Income	154	5.69	9.53	0.10	39.32
Population	157	16.13	1.48	13.03	20.96
Mountainous	126	2.34	1.47	−2.66	4.55
Oil exporter	154	0.13	0.34	0	1
Ethnic fractionalization	135	0.49	0.27	0.002	1
High concentration	139	0.52	0.50	0	1
Democracy	156	2.94	6.62	−10	10
Regime age	159	22.86	30.41	0	191
Economic differences	112	2.56	1.83	−2	4

Findings

Estimating the Effect of Government Involvement on Ethnic Rebellion

We present the results in the following series of tables and graphs. The cross-sectional results use ordered logit models since the dependent variable is ordinal. Model 1 in Table 2 demonstrates that *intervention* is significantly and positively associated with ethnic *rebellion* after controlling for numerous additional determinants of ethnic violence. As expected, higher levels of government involvement in the economy increase ethnic rebellion.

Figure 1 displays the probability of ethnic peace (rebellion = 0) and civil war (rebellion = 7) across different values of *intervention* when holding all the variables at their means (dummies at median).[23] We find that ethnic violence is unlikely in free market economies, but is considerably more common when governments are highly involved in the economy. For example, the likelihood of ethnic civil war is quite rare (3.4 percent probability) for states with average levels of *intervention,* but that probability increases more than threefold, to 11 percent, at *intervention*'s 90th percentile. When markets are at their freest, the predicted probability of ethnic peace is 87 percent but peace is only 50 percent likely when *intervention* is at the 60th percentile.

Figure 2 displays the change in the probability of rebellion which would result from changing the independent variables from their minimum to their maximum values, with the center line representing the mean predicted effect and the outer lines the 95 percent confidence intervals.[24] Moving from the lowest to highest levels of *intervention* increases the likelihood of any rebellion by 71 percent. The confidence interval for that variable ranges from 22 percent to 94 percent, and is thus statistically significant. *Intervention*'s impact is greater than the other variables of Model 1. Two of our control variables, *population* and *high concentration*, also significantly increase the probability of rebellion, by 54 percent and 25 percent, respectively.

The positive statistical association between government involvement in the economy and civil strife is robust to alternative measures of the independent and dependent variable. Models 2 and 3 use different measures of the independent

[23] The figures were created using Clarify (Tomz, Wittenberg, and King 2003).

[24] Except where noted, all simulated effects are based on Model 1. We did not calculate the impact of ethnic fractionalization due to its non-linear relationship.

TABLE 2. Cross-Sectional Ordered Logit Models for Government Intervention

	(1) Rebellion	*(2) Rebellion*	*(3) Rebellion*	*(4) Internal conflict*	*(5) Rebellion*	*(6) Rebellion (group)*
Intervention	1.29***			0.90*	1.31**	0.72*
	(0.49)			(0.53)	(0.51)	(0.37)
Freedom house		0.72*				
		(0.38)				
Modified intervention			1.21**			
			(0.49)			
Income	0.04	0.01	0.01	−0.10	0.04	−0.001
	(0.05)	(0.05)	(0.05)	(0.11)	(0.05)	(0.04)
Population	0.36**	0.38**	0.36**	0.41**	0.23	0.20*
	(0.16)	(0.17)	(0.16)	(0.19)	(0.18)	(0.11)
Mountainous	0.15	0.10	0.14	0.26	0.09	−0.05
	(0.18)	(0.18)	(0.18)	(0.22)	(0.19)	(0.15)
Oil exporter	0.20	−0.58	0.24	0.46	0.70	−0.76
	(0.79)	(0.94)	(0.79)	(0.81)	(0.85)	(0.48)
Ethnic fractionalization	8.18**	7.31*	8.32**	3.73	5.56	1.07
	(3.93)	(3.93)	(3.92)	(4.83)	(4.35)	(3.29)
Eth. frac. squared	−7.87**	−7.09*	−8.09**	−3.67	−4.84	−0.56
	(3.76)	(3.75)	(3.73)	(4.64)	(4.33)	(3.09)
High concentration	1.30**	1.07*	1.26**	0.55	0.46	0.53
	(0.56)	(0.59)	(0.56)	(0.67)	(0.61)	(0.37)
Regime age	−0.01	−0.001	−0.01	−0.01	−0.004	0.001
	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)
Democracy	0.05	0.07	0.06	0.03	0.05	0.04
	(0.05)	(0.06)	(0.05)	(0.06)	(0.06)	(0.04)
Economic differences					0.24	
					(0.18)	
N	100	86	100	100	77	187
Pseudo R^2	0.12	0.10	0.12	0.17	0.09	0.04
Prob > Chi^2	0.000	0.014	0.001	0.002	0.025	0.08

Note. Standard errors are in parentheses. *$p < .1$; **$p < .05$; ***$p < .01$.

variable, *freedom house* and *modified intervention*, showing that these also significantly increase the risk of ethnic rebellion by similar percentages.[25] The results are quite similar when we use *internal conflict* as the dependent variable, as in Model 4, with the most economically free states experiencing thirty-seven percent less armed conflict. *Freedom house* is also significantly related to *internal conflict* (results not displayed).[26] In sum, several different measures of government involvement in the economy are related to several measures of violent civil conflict.

The grievance argument stressed that free markets lead to economic inequalities across ethnic groups, and in turn antipathy and violence. Model 5, which tests the importance of economic differences between groups on levels of conflict suggests that inequalities among groups are less important in explaining ethnic rebellion while free markets continue to reduce violent conflict.[27] Since the state is the main

[25] For both *freedom house* and *modified intervention*, those with the lowest freedom are about sixty-five percent more likely to experience ethnic rebellions.

[26] Some results discussed in the text are not displayed for reasons of space. An addendum to this article, including some of the most important robustness checks, is available on Saideman's website: http://profs-polisci.mcgill.ca/saideman/Current%20Research.htm. Additional results are available from the authors upon request.

[27] Furthermore, *economic differences* remains insignificant when *intervention* is removed from the model. We also tried adding Transparency International's corruption perceptions index to Model 5, and *intervention* remained significant, while corruption was not.

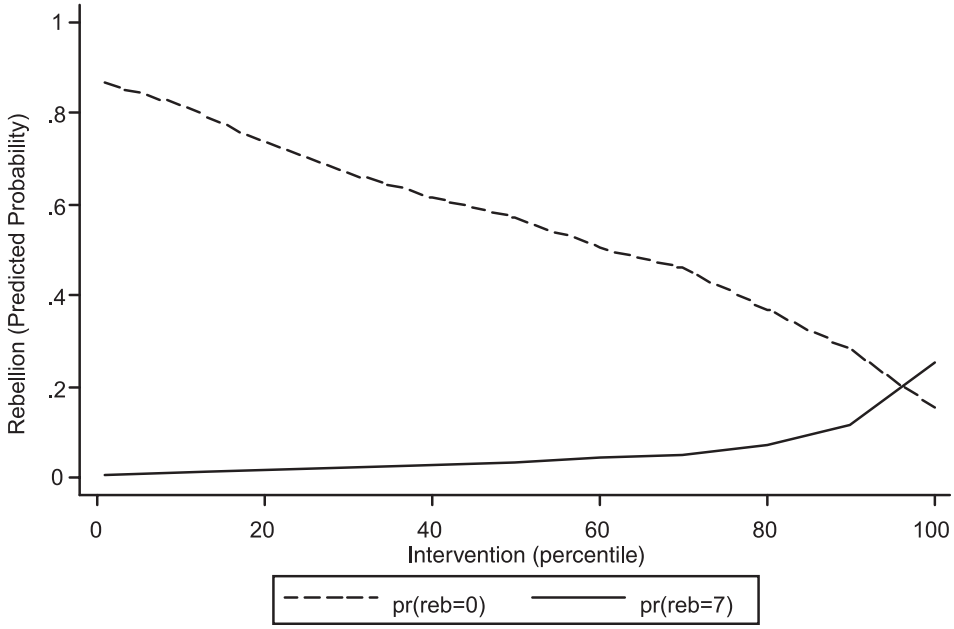

Fig. 1. Effect of Intervention on Probability of Rebellion

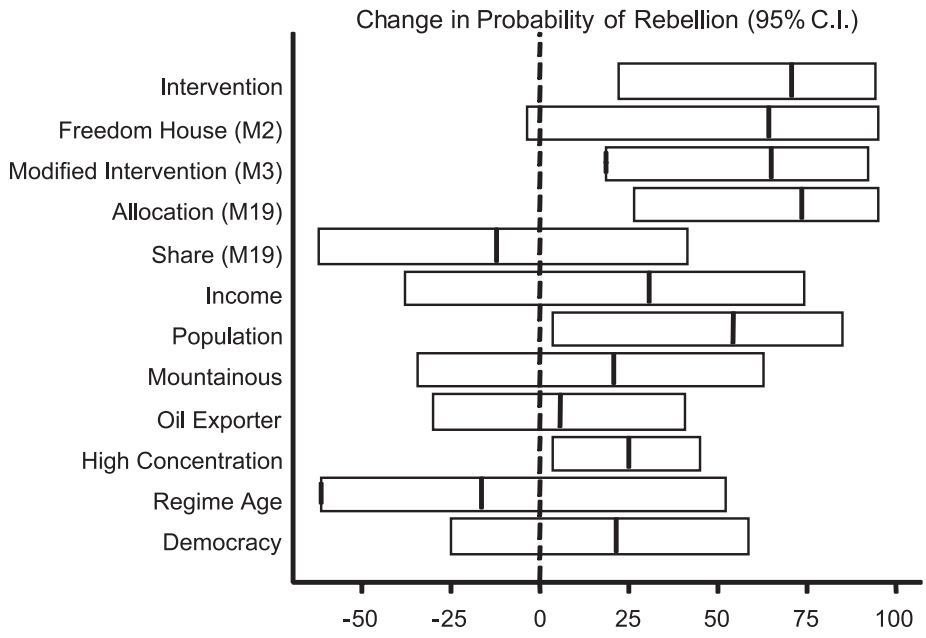

Fig. 2. Change in Probability of Rebellion

unit of analysis here, but MAR was designed for group level analyses, Model 6 tests our standard model using data on ethnic groups, rather than states, and this does not change the relationship between *intervention* and *rebellion*.

For additional robustness checks (not shown), we controlled for specific regions (Sub-Saharan Africa, Eastern Europe, Western), and tried excluding the rich industrial countries to determine if government involvement in the economy was a proxy for omitted factors relating to high levels of economic development. Doing so actually strengthened the impact of *intervention*, *modified intervention,* and *freedom house* on *ethnic rebellion*. Since neoliberal reforms have coincided with changes in international human rights norms, we also tried adding controls for membership in major multilateral human rights treaties (the International Covenant on Economic, Social and Cultural Rights and the International Covenant on Civil and Political Rights), though these were not significant and did not affect the results.[28] To further alleviate concerns of reverse causality, we tried entering longer lags of the independent variables, which remained significant up to and including the earliest year of available data, 1995.

Table 3 presents panel data regressions that include annual data for all years available for both variables (1995–2003). Our analysis focuses primarily on cross-sectional methods because of the limited time points, and the lack of good statistical tools for cross sectional time series analyses with ordinal data. While the results must be viewed with caution, they are still of some use to gauge whether the results seem to hold over a longer period. Since there is no estimation method that is completely appropriate for such an analysis, we use five different estimation techniques, each with its own unique strengths and weaknesses, to increase confidence in these findings, and establish robustness.[29]

Models 7 and 8, which use feasible generalized least squares (FGLS) with corrections for autocorrelation and panel heteroskedasticity, demonstrate that *intervention* and *modified intervention* significantly increase ethnic rebellion in the panel setting. FGLS is probably more appropriate than using OLS with panel-corrected standard errors (PCSEs) because the latter is most useful when data are of a long enough length that time-series properties of the data are important; this is estimated to be at least ten, though perhaps twenty or more time periods (Beck 2001; Beck and Katz 2004). Despite this potential limitation of the PCSE method with this short time period, we tried running this model as a robustness check, and Model 9 shows that the main result holds. A fixed effects vector decomposition (FEVD) model is also potentially useful in this context, as this method aims to reliably estimate the effects of slowly changing variables, such as rebellion and intervention, in panel models (Plumper and Troeger 2007).[30] The FEVD model, which controls for the portion of the unobserved unit effect that is

[28] Another challenge to the human rights norms explanation is the significant cross-sectional variation in ethnic violence. Even if human rights norms have caused a decline of ethnic conflict since the early 1990s (Gurr 2000), this cannot account for the differences among states. We have not seen a homogeneziation toward a single standard of minority treatment, despite the efforts to develop international standards. Indeed, see Saideman and Ayres (2007) for a critique of efforts by the North Atlantic Treaty Organization and the European Union to compel or persuade Eastern Europe to adopt western standards of minority rights.

[29] For a recent discussion of the challenges of doing pooled cross section analyses, see Wilson and Butler (2007).

[30] Fixed effects models are inappropriate for this analysis because their results are unreliable in the face of slowly changing variables, such as rebellion and intervention (Beck 2001; Plumper and Troeger 2007; Plumper, Troeger, and Manow 2005). The dependent variable is time-invariant in the majority of countries. The gains from fixed effects, in terms of reduced sum of squared errors, are considerably outweighed by the costs that dropping the majority of cases would entail (Beck 2001). Furthermore, even for those countries that fixed effects can estimate, fixed effects treats changes in rebellion from 0 and 3 as identical to a change from 4 to 7, thus not addressing the question of interest here, which is the *level* of rebellion, not what leads to temporal *deviations* from the mean (Plumper, Troeger, and Manow 2005). Another useful middle route between unit fixed effects and random effects is to allow groups of countries to have different intercepts. To address this possibility, we tried adding regional dummies, which did not alter the results, nor did excluding Western countries.

Table 3. Panel Data Models for Government Intervention

	(7) *FGLS*	*(8)* *FGLS*	*(9)* *PCSE*	*(10)* *FEVD*	*(11)* *Oprobit*	*(12)* *Logit*
Intervention	0.03**		0.30*	0.47***	0.67**	1.20*
	(0.01)		(0.16)	(0.0001)	(0.13)	(0.72)
Modified intervention		0.03*				
		(0.01)				
Income	0.003	−0.003	0.05	0.07	0.02	−0.09
	(0.005)	(0.005)	(0.05)	(0.87)	(0.01)	(0.10)
Population	0.40***	0.33***	0.67***	0.17	0.44***	1.41***
	(0.04)	(0.04)	(0.12)	(0.29)	(0.04)	(0.30)
Mountainous	−0.03	0.004	0.12	0.11***	0.06	0.22
	(0.03)	(0.03)	(0.11)	(0.02)	(0.04)	(0.31)
Oil exporter	−0.11	−0.11	−0.53	−0.89***	−0.31*	−1.54
	(0.08)	(0.10)	(0.44)	(0.01)	(0.17)	(0.98)
Ethnic fractionalization	4.03***	2.33***	3.49**	4.62***	4.74***	5.95
	(0.77)	(0.67)	(1.59)	(0.05)	(0.97)	(6.02)
Eth. frac. squared	−4.61***	−2.67***	−3.98**	−4.21***	−4.44***	−4.59
	(0.84)	(0.71)	(1.40)	(0.02)	(0.96)	(5.72)
High concentration	0.13	0.03	−0.58***	0.48	0.31**	1.74*
	(0.10)	(0.09)	(0.22)	(0.44)	(0.14)	(0.98)
Regime age	−0.004***	−0.002***	−0.02***	−0.03	−0.01**	−0.02
	(0.001)	(0.001)	(0.01)	(0.06)	(−0.003)	(0.02)
Democracy	−0.005*	−0.03	−0.05	0.03	−0.003	0.11*
	(0.003)	(0.002)	(0.04)	(0.42)	(0.01)	(0.06)
Eta				0.97***		
				(0.02)		
Constant	−6.67***	−5.32***	−10.70***	−4.60***		−34.57***
	(0.65)	(0.65)	(1.86)	(0.15)		(6.13)
N	669	666	676	551	676	676
Prob > Chi^2	0.000	0.000	0.000	0.000	0.000	0.000

Note. Standard errors are in parentheses. *$p < .1$; **$p < .05$; ***$p < .01$.

unexplained by the slowly changing variables, provides similar results to the other approaches (Model 10).

One limitation of the previous methods is that they are designed for use with continuous variables, and assume that all single-unit changes in *rebellion,* an ordinal variable, are of equal importance. The fact that there are a reasonably large number of *rebellion* categories (zero to seven) limits the extent to which the standard regression techniques will be flawed, and it is common to treat scales with seven or more points as continuous (Beck 2001). Nonetheless, to see if this assumption is consequential, we try pooled ordered probit estimation, which is another potentially useful method for ordered data with a moderate number of categories (Earnest 2006). Although this does not address issues of temporal dependence as well as the previous models, it better deals with the categorical nature of the data. Model 11 confirms that *intervention* continues to have a positive and significant relationship with *rebellion* in this case. Changing *intervention* from minimum to maximum, according to that model, reduces the probability of ethnic peace by 29 percent and makes it 16 percent more likely that *rebellion* will be in the highest four categories.

Lastly, we tried running a random-effects logit model with a dichotomous dependent variable, equal to one if rebellion is in the upper four categories and zero if it is in the bottom four categories. The results again support our hypothesis: higher levels of *intervention* are associated with more significant forms of violence. To test the robustness of these panel findings, we applied these five

estimation techniques on group-level data, and *intervention* remained significant in each case.[31]

Our tests show that ethnic conflicts become more violent when the state is an active economic actor than when it is not. This relationship is robust to alternative measures of the independent and dependent variables, and holds for both cross-sectional and panel data analyses. These results are consistent with the argument that rent-seeking, and fears of it, play larger roles in ethnic conflict than previously expected, and that government intervention in the economy is likely to be more of an irritant to ethnic relations than a salve.

Estimating the Effects of Share and Allocation on Ethnic Rebellion

While our primary interest is in how overall government involvement affects ethnic group relations, it is worth examining whether specific interferences with the market have particularly strong effects, and if any promote ethnic peace. Doing so will help clarify the precise causal mechanisms linking economic policy and ethnic strife. As with the previous measures of government intervention, higher values indicate more extensive degrees of government involvement, leading us to expect a positive association with rebellion.

Table 4 shows that four individual components of *modified intervention* significantly influence ethnic rebellion (cross-sectionally). Government controls of capital flows and foreign investment, government involvement in banking, wage and price controls, and government regulation all significantly increase ethnic violence. By contrast, the measures for trade policy, fiscal burden, and government intervention are not statistically significant. Several individual types of state interference with the market contribute to ethnic violence, and no evidence suggests that any government interventions in the economy contribute to ethnic peace.[32]

Models 17–19 show that *allocation*—the average of banking, foreign investment, wage-price, international trade, and regulation—has a positive and significant effect on ethnic violence, increasing the likelihood of violence by over seventy percent and the highest form of violence by nearly a quarter.[33] Figure 2 demonstrates that the substantive effect of *allocation* is even larger than *intervention,* increasing the probability of ethnic violence by 74 percent. *Share*, the average of fiscal burden and government intervention, has no effect on ethnic violence. The effects of the two components of intervention on *internal conflict* are the same: *allocation* increased violence while *share* was insignificant (not displayed).

We also tested to see which individual components of *modified intervention* affect ethnic violence in the panel setting. These results, in Table 5, show that banking controls, government regulations, and wage-price controls contribute to higher levels of violence. None of the other individual components were statistically significant at conventional levels. Similar to the cross-sectional results, *allocation* significantly increases ethnic rebellion, but *share* does not seem to matter. When both of these latter variables are included in the model together, the former remains positive, though just missing significance ($p = .125$).

The pattern across the two sets of results is clear: government efforts to reallocate resources are more important than the government's share of the economy. Both allocation and its two component variables were consistently significant. On the other hand, neither share nor its two individual components were ever

[31] Again, see the author's website (fn. 26) for these models.

[32] We also investigated whether the other three components were individually important. Property rights and informal economy are not significantly associated with ethnic rebellion, but activist expansive monetary policies are positive and significant.

[33] Again, we use Clarify here, setting the independent variables at their mean values and manipulating the key variable's value from its minimum to its maximum.

Table 4. Cross-sectional Ordered Logit Models for Government Size and Allocation

	(13) *Rebellion*	*(14)* *Rebellion*	*(15)* *Rebellion*	*(16)* *Rebellion*	*(17)* *Rebellion*	*(18)* *Rebellion*	*(19)* *Rebellion*
Regulation	0.84**						
	(0.38)						
Banking		0.95***					
		(0.31)					
Foreign investment			0.62**				
			(0.30)				
Wage-price				0.65**			
				(0.33)			
Allocation					1.18***		1.26***
					(0.43)		(0.46)
Share						0.21	−0.20
						(0.39)	(0.43)
Income	0.02	0.01	−0.003	−0.002	0.02	−0.01	0.20
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Population	0.34**	0.33**	0.36**	0.38**	0.33**	0.37**	0.32*
	(0.16)	(0.16)	(0.16)	(0.16)	(0.16)	(0.16)	(0.16)
Mountainous	0.10	0.13	0.13	0.13	0.11	0.17	0.10
	(0.17)	(0.18)	(0.18)	(0.17)	(0.18)	(0.17)	(0.18)
Oil exporter	0.40	−0.16	0.28	0.39	0.18	0.32	0.16
	(0.78)	(0.81)	(0.80)	(0.78)	(0.79)	(0.78)	(0.79)
Ethnic fractionalization	8.66**	9.74**	7.43*	7.41*	8.42**	8.03**	8.43**
	(3.97)	(3.93)	(3.95)	(3.93)	(3.92)	(3.92)	(3.92)
Eth. frac. squared	−8.27**	−9.32**	−7.09*	−6.60*	−8.20**	−7.32**	−8.17**
	(3.82)	(3.80)	(3.73)	(3.73)	(3.73)	(3.73)	(3.74)
High concentration	1.43**	1.47***	1.25**	1.19**	1.39**	1.06**	1.43**
	(0.58)	(0.57)	(0.56)	(1.19)	(0.57)	(0.54)	(0.58)
Regime age	−0.005	−0.003	−0.01	−0.01	−0.01	−0.01	−0.01
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Democracy	0.02	0.04	0.04	0.04	0.07	−0.001	0.06
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.06)
N	100	100	100	100	100	100	100
Pseudo R^2	0.12	0.13	0.11	0.11	0.13	0.10	0.13
Prob > Chi^2	0.001	0.000	0.001	0.001	0.000	0.005	0.001

Note. Standard errors are in parentheses. *$p < .1$; **$p < .05$; ***$p < .01$.

significant. We conjecture that government allocation is more likely to promote violent competition because it is a more useful rent-seeking tool than is total share.[34] Comparing the effects of government investments and subsidies illustrates this point: the government can directly target subsidies toward favored industries, and subsidization directly enhances profits; however, while government investments, such as road-building, can also be targeted toward favored regions (see Easterly and Levine 1997, 1217), the benefits for any particular firm or industry are likely to be less intense. These more limited gains may not be worth fighting over. Government allocation potentially contributes to ethnic tension more than government share because the benefits are more intense and the stakes are higher. It also may be the case that fiscal burden and government intervention may increase state strength or compensate for inequalities more than allocation policies, leading to more mixed effects. Further research is required to more fully understand these differences. Overall, our results indicate

[34] Consistent with this finding and interpretation, Gerring and Thacker (2005) found that government regulation of trade, finance, and prices increased political corruption, but government employment, consumption, and ownership had no such effect.

TABLE 5. Panel FGLS Models for Government Size and Allocation

	(20) Rebellion	*(21) Rebellion*	*(22) Rebellion*	*(23) Rebellion*	*(24) Rebellion*	*(25) Rebellion*
Banking	0.07***					
	(0.02)					
Wage-price		0.04**				
		(0.02)				
Regulation			0.01*			
			(0.006)			
Allocation				0.03*		0.03
				(0.01)		(0.02)
Share					0.002	−0.001
					(0.01)	(0.01)
Income	−0.003*	−0.002	−0.006	−0.005	−0.001	−0.006
	(0.002)	(0.002)	(0.005)	(0.005)	(0.003)	(0.006)
Population	0.37***	0.53***	0.45***	0.37***	0.41***	0.31***
	(0.03)	(0.02)	(0.03)	(0.04)	(0.03)	(0.04)
Mountainous	0.004	−0.002	0.01	−0.02	0.07***	−0.01
	(0.03)	(0.03)	(0.03)	(0.02)	(0.03)	(0.03)
Oil exporter	−0.10	−0.11	−0.13*	−0.07	−0.14*	−0.09
	(0.09)	(0.08)	(0.07)	(0.07)	(0.08)	(0.09)
Ethnic fractionalization	3.19***	5.54***	3.69***	3.61***	3.63***	2.43***
	(0.61)	(0.56)	(0.72)	(0.77)	(0.46)	(0.70)
Eth. frac. squared	−3.50***	−6.14***	−3.87***	−4.06***	−4.00***	−2.79***
	(0.69)	(0.66)	(0.72)	(0.80)	(0.54)	(0.75)
High concentration	−0.03	−0.01	−0.06	0.03	0.08	−0.03
	(0.08)	(0.09)	(0.09)	(0.09)	(0.05)	(0.09)
Regime age	−0.002***	−0.005***	−0.004***	−0.003***	−0.004***	−0.003***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Democracy	−0.003	−0.001	−0.001	−0.003	−0.005*	−0.004
	(0.003)	(0.004)	(0.003)	(0.003)	(0.003)	(0.004)
Constant	−6.16***	−8.69***	−7.27***	−5.98***	−6.70***	−4.88***
	(0.56)	(0.38)	(0.56)	(0.71)	(0.46)	(0.70)
N	668	669	667	666	669	666
Prob > Chi^2	0.000	0.000	0.000	0.000	0.000	0.000

Note. Standard errors are in parentheses. *$p < .1$; **$p < .05$; ***$p < .01$.

that government involvement in the economy increases ethnic violence, and actions relating to resource allocation are more important than the total share of economy controlled by the state.

When Does Intervention Matter? The Conditioning Role of Income

This section investigates whether the effect of free markets differs systematically across various types of countries. There are numerous possible factors that might condition the effect of economic policy on conflict, though we focus here on one likely factor: per capita income. The opportunity logic might expect free markets to have little effect in the poorest states, since state capture is always profitable in this case and because rebellion is generally easier. On the other hand, it may be the very poorest economies where the effects of government interventions on insecurity are strongest. Table 6 displays results testing these alternative hypotheses.

To evaluate these hypotheses, model 26 adds an interaction term, *intervention* × *income*, to the standard model. *Intervention* is significant and positive, implying that when income is very low, this factor increases violence. While the

Table 6. Interactions Between Intervention and Income

	(26)	*(27) High Income*	*(28) Middle Income*	*(29) Low Income*
Intervention	1.37*** (0.50)	2.02 (1.33)	2.77* (1.55)	3.14** (1.42)
Income	0.24 (0.22)	0.07 (0.07)	−3.22** (1.63)	−0.01 (0.01)
Intervention × income	−0.09 (0.10)			
Population	0.37** (0.17)	0.48 (0.32)	−0.18 (0.41)	0.88 (0.80)
Mountainous	0.14 (0.18)	0.30 (0.35)	−1.81** (0.76)	0.61 (0.58)
Oil exporter	0.39 (0.81)	−3.42 (2.99)	3.19 (2.14)	2.49 (2.37)
Ethnic fractionalization	8.76** (4.08)	24.42** (12.49)	34.42*** (12.60)	−2.83 (10.63)
Eth. frac. squared	−8.73** (3.98)	−31.47* (17.14)	−34.59*** (12.21)	0.77 (9.09)
High concentration	1.43** (0.59)	−0.46 (1.05)	0.26*** (0.14)	3.30 (2.06)
Regime age	−0.01 (0.01)	0.003 (0.01)	0.04 (0.04)	0.02 (0.06)
Democracy	0.05 (0.05)	−0.09 (0.16)	0.26* (0.14)	−0.02 (0.13)
N	100	43	30	27
Pseudo R^2	0.13	0.17	0.41	0.28
Prob > Chi^2	0.001	0.204	0.000	0.022

Note. Standard errors are in parentheses. *$p < .1$; **$p < .05$; ***$p < .01$.

interaction is not significant, its negative sign implies that free markets have smaller effects in richer countries relative to poorer ones, though it is not clear that this difference is large. The next three models provide further support for the argument that *intervention* raises violence in poor states, but has a smaller effect in rich economies.[35] That variable is not significant for high income countries (per capita GDP above $2,000). The coefficient is larger for countries with incomes between $500 and $2,000, and is now significant. The effect increases and becomes more highly significant for the poorest countries (average income below $500). Government involvement in the economy exacerbates ethnic tensions in poor countries, though it has more limited effects on ethnic violence in richer countries.

Control Variables

Several of the control variables were shown to be important predictors of ethnic rebellion. *Log Population* was positive and significant in most of the regressions, indicating that countries with larger populations are more likely to experience ethnic civil wars. One interpretation for this finding, suggested by Fearon and Laitin (2003), is that larger populations mean more potential rebels. Our results indicate that ethnic group structure has important effects on violent conflict. *Ethnic fractionalization* was typically positive and significant while its square was significantly negative. This provides support for the claim that rebellion is most likely in the intermediate range of fractionalization when there are approximately two or three significant ethnic groups. In addition, *high concentration* was robustly positive and significant. Countries with geographically concentrated ethnic groups are much more likely to experience violent ethnic rebellion than those with only diffused groups.

The nature of the domestic political regime was not important in the cross-sectional results, but the panel data analyses suggested that it was relevant to ethnic conflict. The negative coefficient on *regime age* indicates that older regimes are less conflict-prone than new regimes. *Democracy,* however, behaved somewhat erratically: though typically insignificant, it showed up occasionally as negative and significant, but was positive and significant in the model with a dummy dependent variable. This may reflect the non-linear effects of democracy on

[35] These results are quite similar when *income* is not included as a regressor.

conflict, which has been observed by previous studies (Fearon and Laitin 2003), or perhaps democracy reduces the probability of low-intensity conflict but increases the likelihood of large-scale civil wars.

More surprising is the inconsistent effect of *oil exporter* on rebellion. Previous research suggests that this variable typically is associated with more conflict, and in some of our cross-sectional models (some of which were not shown here, but see online addendum), this was found to be the case. However, in most models, it was found to have no effect, and it was occasionally associated with lower violence. Equally surprising, per capita *income* is not robustly related to *rebellion:* although it has the expected significant negative effect in some models (model 21, online appendix models), it is typically insignificant.

There are several possible reasons for the contrast between the typical results in the literature and this non-finding with respect to income. Previous studies have not controlled for economic policies, and the presence of this control, which is collinear with economic development, may partially explain the latter's insignificance here. The evidence for this interpretation is mixed. *Income* becomes significantly negative when *intervention* is excluded from the basic panel model. Also, while Bussmann and Schneider's (2007) study finds that income is typically significant, it is not significant in the only model that includes a measure of trade policy. Although the bivariate correlation between *intervention* and *income* is high, −0.67, it is not likely high enough to present major estimation problems. The correlation between *income* and the specific components of intervention are much weaker,[36] yet *income* remained insignificant in those models. Furthermore, in the cross-sectional analysis, the income and oil variables remain insignificant when *intervention* is excluded. Whether the relationship between income and civil war remains strongly negative after controlling for economic policy requires more research.

Another potential explanation is that opportunity related factors are less relevant in ethnic conflicts than to other types of civil war. This is consistent with other studies (Lujala, Gleditsch, and Gilmore 2005; Sambanis 2001), which have found that economic development does not significantly affect the incidence of ethnic civil wars. The bivariate correlation between per capita *income* and *internal conflict* is slightly larger than its correlation with *rebellion* (0.18 versus 0.16). At the same time, however, *income*'s lack of significant effect on *internal conflict* (Model 4) suggests that this is not the whole story either.[37] In sum, some of the results here differ from the standard findings perhaps due to our focus on a specific subset of civil wars.

Finally, it is worth noting that the effects of income likely vary depending on the nation's political-economic conditions. The interactive relationship in model 26 indicates that economic development's violence-reducing effects may be stronger for economically interventionist states than for those with free markets.[38] That *income* was significant for middle-income countries, but not the richest or poorest ones (Table 6) further suggests that its effects are context-dependent. While much attention has already been paid to the effects of income on conflict, additional research is still required to determine the conditions under which income does and does not influence conflict, and whether controlling for economic policy alters the relationship. Table 7 summarizes the main differences and similarities between our findings and previous ones.

[36] For example, its correlation with *share* is −0.54, and with *allocation* is −0.22.

[37] Income remains significant when *intervention* is removed from that model.

[38] When intervention is at its maximum, going from the lowest to highest income levels reduces the probability of ethnic violence by 57%, but the same change when intervention is at its minimum increases violence by 57%. The confidence interval is not significant in either case, though this is suggestive.

Table 7. Summary of Previous Work and Current Findings

Variable/Concept	*Previous Arguments/Findings*	*Our Findings*
Government involvement in economy		
Government Intervention	– (Chua, extension of Fearon & Laitin and of Collier & Hoeffler)	+
Government allocation	– (Chua)	+
Government share	– (Chua)	0
Economic development	–	0
GDP/population	(Fearon & Laitin, Collier & Hoeffler) 0 (Sambanis, Lujala et al.)	
Other opportunity factors		
Size of population	+ (Fearon & Laitin)	+
Oil exporter	+ (Fearon & Laitin)	Mixed
Mountainous terrain	+ (Fearon & Laitin)	Mixed
Ethnic group characteristics		
Ethnic fractionalization	0 (Fearon & Laitin) Parabolic (Sambanis, de Soysa)	Parabolic
Geographic concentrated group	+ (Toft, Saideman et al.)	+
Political regime		
Democracy	+ (Saideman et al.)	Mixed
Anocracy	+ (Fearon & Laitin)	
Regime Age	+ (Saideman et al.)	–

Note: + indicates positive effect on the dependent variable, – indicates negative effect, 0 indicates no significant effect, mixed refers to inconsistent r.

Conclusions and Policy Recommendations

Which economic policies are most effective at reducing ethnic strife? Many believe that market-oriented policies exacerbate ethnic tensions by intensifying grievances and stripping the state of resources it needs to prevent insurgency. However, these arguments overlook important flaws in managing ethnic tensions with extensive government involvement in the economy. We argued that high levels of government involvement in the economy can make ethnic groups feel insecure and vulnerable, and thus become more likely to resort to arms. Laissez-faire reduces inter-ethnic fear by reducing the importance of running the state.

Our statistical analyses support the claim that government involvement in the economy increases ethnic rebellion. Although more research on this issue is merited, we can draw some preliminary conclusions from these analyses. With respect to theory, our findings suggest that economic vulnerabilities may be more important to ethnic conflicts than previously believed, and deserve more attention. While our tests do not necessarily refute grievance or opportunity theories overall, they suggest that certain variants of these theories, or at least their

applications to the relationship between economic policy and ethnic conflict, are less persuasive.

These findings suggest that efforts by Western governments and the international financial institutions to promote the spread of free markets are likely to have beneficial effects on ethnic group relations. Shrinking the role of government in economies, particularly with respect to resource allocation, seems to be an effective way to depoliticize distributional struggles, and can be justified not only on economic grounds but also for the sake of ethnic peace.

However, this study does not imply that countries should move toward free markets simply for the sake of ethnic peace. After all, rapid transitions toward markets could potentially breed ethnic violence due to the rise in uncertainty and vulnerability associated with rapid policy changes. We would also like to point out that nothing in our analysis implies condemnation of all forms of government intervention. There was no evidence that privatization of state-owned enterprises, government employment, and consumption have any effect on ethnic conflict one way or the other. Therefore, the provision of public goods, such as clean drinking water, hospitals, and infrastructure should continue to be encouraged. The fact that such services are often supplied by the state in a biased manner suggests that supplying them through less politicized channels might be most beneficial. Perhaps outsourcing revenue collection and service provision to international organizations or foreign firms will capture the benefits of effective governance without its' negative consequences.[39]

Researchers at the World Bank (Collier et al. 2003, 91) argue that ''effective regulation'' of markets is required to build a peaceful world. This study's most important policy implication is that these prescriptions must be sensitive to the fact that those responsible for regulating and restraining the market are not benevolent leaders, but those with incentives to favor some groups over others. Even if they are benevolent, they are unlikely to be perceived as such.

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[39] This recommendation was suggested to us by Will Reno.

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