Does Ethnolinguistic Diversity Preclude Good Governance?  
A Comparative Study with Alternative Data, 1990-2015

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The borders of African nations were determined through a tragicomic series of negotiations between European powers in the nineteenth century that split up ethnic groups and exacerbated pre-existing high levels of ethnic and linguistic diversity (Easterly & Levine, 1997:1213).

One of the most powerful hypotheses in political economy is the notion that social divisions undermine economic progress (Banerjee, Iyer & Somanathan 2005:639).

I. INTRODUCTION

Several prominent economists suggest that states fail because societal frictions emanating from coordination failure and diverse preferences among ethnic and cultural groups derail political and economic development (Alesina and La Ferrara 2005; Easterly 2006b; Mbaku, Agbese and Kimenyi 2001).1 Political scientists, likewise, argue that democracy and good governance are difficult under conditions of high societal diversity (Berman, Eyoh and Kymlicka 2004; Dahl 1982; Horowitz 2000; Lijphart 2004; Rabushka and Shepsle 1972; Rothstein 2011). Sociologists argue that social and political exclusion of some groups by others is what matters, not the degree of diversity per se (Wimmer 1997). Since “inclusive,” rather than “extractive” political and economic institutions apparently undergird socio-economic progress (Acemoglu and Robinson 2012; North, Wallis and Weingast 2013), understanding how social diversity affects governance is critical. If “artificial states” formed by the whims of colonial officials display high societal cleavages based on ethnic and cultural difference, then expecting the necessary social consensus for endogenous institutional development is apparently unreasonable (Alesina, Easterly and Matuszeski 2011). Some scholars, however, challenge the view that diversity matters, arguing that it may even help better economic and political outcomes depending on the cross-cutting

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1Most societies have many salient cleavages, such as class, gender, religion, language, ethnicity etc. We focus on ethnolinguistic diversity because of the importance of language as a distinctive marker. Following convention, we use the term diversity and fractionalization interchangeably.
nature of cleavages (Collier, Honohan and Moene 2001; Esteban and Ray 2008; Finseraa and Jakobsson 2012; Garcia-Montalvo and Reynal-Querol 2002). We revisit this debate by extending the extant empirical literature in at least four novel ways. First, we utilize the award-winning data on political governance collected by the Varieties of Democracy (VDEM) project, contrast these results with economic governance measured as economic freedom (Fraser Institute), use alternative measurements of ethno-linguistic diversity, and use a direct measure of ethnic frictions (rather than the probabilistic diversity measure) when examining the effects of social diversity on good governance.

Our results are easily summarized. There is a fair bit of correspondence between the results from the different fractionalization measures when political governance and the impartial application of law and other public goods as coded by the VDEM data are examined. Higher diversity is positively associated with political corruption and bureaucratic and administrative mis-governance, but the substantive effects are very slight. Contrarily, increased fractionalization seems to have favourable effects on good economic governance measured as the Economic Freedom Index and each of its component parts. These measures might be biased towards governance based on economic and market-related factors over political factors, an issue that will have to be addressed by closer examination of the VDEM data and those of political risk agencies. Surprisingly, ethnic exclusion from state power and ethnic discrimination, two measures that directly capture notions of ethnic frictions, correlate positively with good economic governance as measured by the economic freedom index. These results do not suggest that ethnic frictions derail sound economic management. It may also be that ethnic frictions occur for reasons outside the realm of governance. In robustness tests, we also find that higher ethno-linguistic diversity reduces one-sided state violence against citizens, which again suggests that diversity is associated with lower, not higher social frictions as expected by extant theory. Our results taken together raise serious doubt about the centrality of arguments linking ethnic diversity to socio-economic and political failure. Indeed, ethnic frictions might arise as a consequence of economic failure, an issue for future research to address.

II THEORY

1. Why ethno-linguistic fractionalization?

Many scholars argue that inclusive institutions dampen distributional conflicts among groups in society, which explain the political and economic success of nations (Acemoglu and Robinson 2012; Banerjee, Iyer and Somanathan 2005; Bardhan 2005). In this context, some see high ethno-linguistic diversity as a problem because bringing about good institutions requires coordination and the
convergence of preferences among groups. Such group unity is apparently difficult under conditions of societal diversity because diverse preferences lead to social frictions that might derail good governance and increase transaction costs (Alesina and La Ferrara 2005; Easterly and Levine 1997). These scholars blame the failure of development on “artificial states” created by colonial powers in their scramble for territory. The resultant artificial countries lack solid, consensus-based, inclusive institutions for smoothing distributional conflicts and forging agreement on reforms that generate economic growth, social and technological change, and produce endogenous development (Alesina, Easterly and Matuszeski 2011). Similar arguments have also entered recent discussions in the industrialized West about the expected effects of increased immigration due to both economic and cultural factors, and scholars across many fields continue to debate the merits of multiculturalism over integration (Inglehart and Norris 2016; Kymlicka and Banting 2006; Putnam 2007).

Conceptually, the notion of diversity is not easily identified and measured. Individuals in society may have a multiplicity of identities, with ethnic, linguistic, and religious differences being only a subset of many other identities, such as class, caste, tribe, gender etc. Much may depend on which identity any one person deploys based on what issue is at stake. Why some identities lead to frictions at some times and places and others don’t needs to be explained with theoretical precision, rather than simply attributing problems to ethno-linguistic diversity (Chandra 2006; Posner 2004). For these reasons, others have argued persuasively that rather than diversity and ethnic fractionalization, one needs to understand outcomes based on group grievances generated by how the state is “owned” by one or another ethnic group(s). Given that no country is perfectly homogenous, competition for controlling the state among groups is likely to arise, leading to political exclusion and discrimination of some groups by others (Wimmer 1997). Such issues, which in many cases may have an existential stake could lead to severe social friction, often resulting in ethnic separation. Ethnic groups, thus, rebel because they are excluded and discriminated against, not simply because some high level of ethnic and other diversity exists (Cederman, Wimmer and Min 2010). Indeed, while these interjections into the issue of ethnic diversity and how it may matter are useful, forcing researchers to specify more clearly why ethnicity matters, this paper focuses specifically on arguments that address the issue of diversity based on the question of ‘artificiality of states’ that contain multiple ethno-linguistic groups, regardless of whether people identify with the labels or not.

While most debates focus exclusively on violent conflict, we focus specifically on governance since the links to conflict are specified as failures of governance. In other words, while we examine arguments about problems associated with the diversity of preferences and coordination failure due to multiple groups, which are the mechanisms argued to be the driving sources of “social frictions,” we also
address the question of frictions directly by employing indicators of ethnic exclusion and ethnic discrimination as measured by the Ethnic Power Relations (EPR) data (Cederman, Wimmer and Min 2010). Arguably, the greater a share of a population that claims that it is excluded from state power and the greater the extent of ethnic discrimination, the less likely we expect to see elements of good, inclusive governance as captured by a variety of political corruption measures and an index of economic freedom.

Those who focus on diversity and the concept of artificial states argue that ethnic groups will compete for scarce resources, which may lead to the discrimination of others and the manipulation of laws and policies in favour some over others (Glaeser and Saks 2006). Pessimists on diversity focus on the lack of social cohesion and trust emanating from diverse preferences and coordination failure (Alesina and La Ferrara 2000; Easterly 2006b). Countries suffering these social frictions, thus, will not be able to achieve their production frontiers because of coordination failure. There is little ambiguity about what these scholars mean by social diversity. Easterly et al. (2006, p. 105) succinctly elucidate the connection between cultural fractionalization and low social cohesion thus:

Socially cohesive societies ... have fewer potential/or actual leverage points for groups, individuals, or events to expose and exacerbate social fault lines .... Easterly (2006, p. 113) writes,

In many ethnically divided countries today, politicians often exploit ethnic animosities to build a coalition that seeks to redistribute income to us from them.

Also, as Bardhan (2005: 521) has written,

The history of underdevelopment suggests that a major stumbling block to beneficial institutional change in many poor countries lies in the distributive conflicts and asymmetries in bargaining power among social groups.

Unlike primordialists that believe that cultural differences are programmed to clash, instrumentalists believe that most people will cooperate for mutual gain and benefit, absent the instrumentalization of identity by self-serving leaders. Scholars have long argued that ethnic and linguistic identity facilitates the convergence of an interest with an effective tie (Horowitz 1998). Thus, political leaders can easily “instrumentalize” identity for achieving political ends, whether self-serving or whether in the interests of a group. These clashes of interests increase polarization and reduce the cooperation necessary for building strong, consensual, and legitimate institutions that guarantee economic, political, and social stability. What form of ethnic configurations then allows easier instrumentalization of identity becomes a critical question.

Why are some societies able to cauterize mutual acrimony and the breakdown of cooperation while others fail to do so? The answer may relate to governance,
where ethnic groups who are able to control the state are likely to win big at the expense of excluded groups (van de Berghe 1987; Vanhanen 1999; Wimmer 1997). In poor countries, ethnic politics are likely to be more salient than other identity politics, such as class. Ethnic-identity-based patronage and clientelism are apparently ubiquitous in many countries. Some argue that corruption in society is likely when citizens vote on the basis of group preferences rather than in the collective interest (Glaeser and Saks 2006). Voters are likely not to punish their own leaders for corruption because they benefit from the patronage of these leaders. Discrimination and exclusion of other groups in the competition for scarce resources, thus, are likely to be part of the greater problem of governance, where corruption goes unchecked and where sound, market enhancing economic policies are likely to be absent. As Bardhan (2005: 521) quoted above suggests, the “asymmetry of power” between groups preclude cooperation and agreement.

Pessimists on ethnic diversity show that ethnic diversity reduces economic growth, lowers spending on public goods, and increases political corruption (Alesina, Baqir and Easterly 1999; Alesina and La Ferrara 2005; Mbaku, Agbese and Kimenyi 2001). While we primarily focus on diversity and the notion of artificial states, we will also contrast our results with ethnic exclusion and discrimination, which relate to diversity only peripherally. If ethnicity matters for governance through social frictions, we should expect to see such frictions based in exclusion and discrimination. Such ethnic discrimination should also result over time in ethnic economic inequalities, which also affects governance (Alesina, Michalopoulos and Papaioannou 2016; Kyriacou 2013). While we do not use data on economic inequality between ethnic groups, or horizontal inequality, we proxy such economic inequality with data on political exclusion and discrimination following others.

The view that high social diversity is problematic has not gone unchallenged. As far back as the late 19th Century, the British politician Lord Acton, asserted that social diversity is good for progress because it stabilizes democracy and ensures good governance. In particular, Acton saw minorities playing a crucial role in the advance of liberty because they acted as a check against abusive majorities and the concentration of absolute power (Kukathas 2003). In a similar way, others see democracy and market forces strengthened precisely by the inner conflicts driven by social divisions, whereas gemeinschaft among das volk often lead to the abuse of power by absolute majorities (Hirschman 1994). Indeed, political scientists have argued that a multiple of cross-cutting cleavages have a stabilizing effect on democracy because fractionalization of groups, whether along class and occupational lines, or ethnic ones, prevent any one group from dominating another (Dahl 1982; Houle 2015; Lijphart 1977). High diversity, which should generate cross-cutting cleavages, thus, could prevent mass nationalist mobilization by large majorities, cauterizing the conditions that lead to the instrumentalization of identities and polarization (Esteban and Ray 2008; Gubler and Selway 2012).
Perhaps these conditions generate greater inclusivity because it is harder for any one group to build a winning coalition. Indeed, some show that higher diversity is conditioned positively by cross-cutting religious cleavages when estimating the effect of ethnic diversity on societal trust (Finseraas and Jakobsson 2012). Moreover, the popular thesis suggesting that social capital is affected by diversity is challenged at least in the US case (Costa and Kahn 2003).

In a similar vein, economists, such as Paul Collier, using insights from new institutional economics, argue that absent strong formal institutions, ethnic group norms can act as stable institutional environments for facilitating investment, production, and trade (Collier, Honohan and Moene 2001). Collier’s argument is that within group cohesion could reduce incentives for cheating, particularly in settings where formal institutions are weak. Others show that diverse populations can indeed overcome parochialism and share solidarity for addressing common goals (Singh 2015). Those who are less pessimistic about social diversity suggest that diversity can be a source of good because ethnic and other cultural ties can reduce transaction costs between groups by allowing easier in-group policing (Fearon and Laitin 1996; North 1990). Fearon and Laitin (1996) argue that because transgressions by members of one ethnic group against another can escalate rapidly, ethnic group leaders build institutions that lead to the cauterization of ethnic violence. Cheating across groups would be frowned upon because of reputational costs, making ethnic identities and associated social trust within groups a positive thing.

Likewise, others have shown that social trust is not simply bred in homogeneous societies, but that trust is generated by what people believe to be fair and impartial processes (Rothstein 2011; You 2012). Moreover, absent group cohesion and consensus, diversity might lead to greater emphasis on private rather than public solutions, smaller states, and lower tax burdens, all of which might enhance the development of markets and promote economic development. Indeed, some argue that cross-cutting cleavages in multi-ethnic societies prevent the monopolization of political and cultural power by a permanent majority, thereby leading to better, more inclusive, social and political outcomes (Horowitz 1998; Lijphart 1993). Clearly, more empirical research is needed to verify the various ways in which high ethno-linguistic diversity, or the degree to which states are artificial, matters for economic and political development. Since corruption and bad governance in terms of skewed economic policies are critical to understanding the failure of development, how ethnic and identity politics matter must be examined empirically.

There is now a growing body of empirical research suggesting that diversity might be less problematic than relative homogeneity (Collier and Hoeffler 2004; Esteban and Ray 2008; Horowitz 2000; Welch 1998). Large-N statistical studies find that ethnic diversity correlates positively with better human rights, suggesting that diversity might not result in “social frictions” because human
rights are usually violated when there is serious social dissent (Lee et al. 2004; Poe 2004; Walker and Poe 2002). Despite arguments about ethnic diversity and low economic growth, low public goods provision and low governance, recent empirical studies report that higher diversity increases economic growth and the quality of economic policies (Bove and Elia 2017; de Soysa and Vadlamannati 2017). Moreover, several sub-national studies suggest that high social diversity increases public goods, even if studies at the national level suggest that diversity affects public spending negatively (Gisselquist, Leiderer and Nino-Zarazua 2016). The empirical evidence, thus, remains highly mixed and contentious.

2. What is inclusive governance?

The standard view of good governance is the lack of corruption, usually defined as the abuse of public office for private gain. While many forms of corruption, however, can be negative to society, how a society increases markets over monopoly and allows inclusive rather than extractive processes are thought to be decisive. Inclusive institutions protect peoples’ property rights, apply the rule of law fairly, and allow technological change and progress without the protection of markets and the monopolies of vested interests (Acemoglu and Robinson 2012). Bad economic policies can be good politics, and there is nothing to stop ethnic rulers from using economic policies to favour supporters and punish opponents (Bates 2001; Bueno de Mesquita and Smith 2011). Consider the case of Sri Lanka and Malaysia. Sri Lanka, since independence, sported fairly liberal and inclusive political institutions, but embarked on an ambitious import-substitution industrialization strategy in the early 1970s that brought high inflation, shortages of consumer goods, and high unemployment. Subsequently, a separatist war between the state and an ethnic minority broke out by the late 1970s. The conditions for civil war were created during a decade of economic failure. Malaysia, contrarily, openly practices illiberal policies against minorities, favouring so called “sons of the soil”, the Malay majority, in all aspects of politics. Despite this, Malaysia has maintained an open economic system and “liberal” economic policies that are fair and progressive. Malaysia, unlike Sri Lanka, has escaped serious social frictions among ethnic minorities. Thus, how minorities or any other discriminated group react to governance-related questions can be ambiguous, including the question of which aspects of governance motivate dissent, or whether it is political exclusion or economic exclusion that primarily matters. As many suggest, Asia has developed with very heavy suppression of cultural and political rights of its minorities (Dorsey 2018).

Indeed, some scholars identify the quality of governance on rights-based political theory and define it as “impartiality” (Rothstein and Teorell 2012). Impartiality adds more precision to the concept of “good governance” and “corruption”
because it captures the essence of political patronage and exclusion. When governments are capable of being impartial, laws are implemented without favour and come to be considered legitimate by the populace at large. Moreover, when laws are applied without bias, one might claim that institutions work autonomously of political power and personalities. While corruption could be well hidden because of rent-seeking activity within even democracies, some autocracies, such as Singapore, have been capable of good governance because of the impartial application of law and regulation and the provision of public goods in rigorous and impartial ways.

The pessimistic arguments about ethnic fractionalization based on coordination failure rest precisely on this notion of impartiality. They see fractionalization as a hindrance to bringing about this “good quality” of governance. According to Rothstein (2005), however, ethnic fractionalization by itself is not sufficient to derail impartial governance. Issues relating to ethnic politics can be handled at the constitutional level by political elites, who would have good reason to cooperate. If people of different ethnicities are treated differently, this is a choice made by the government, not an inherent quality of any society (Rothstein 2005). Likewise, Collier et al., 2001 argue that generally “… democracy is a way of dealing with multi-ethnic societies as long as minority rights are respected” (Collier et al., 2001:40). Egalitarian societies with honest government are likely to be in a positive equilibrium, while it is possible that unequal societies remain trapped in negative feedback loops when it comes to corruption and generalized social trust (Rothstein and Uslaner 2005). Again, it is clear that rather than just diversity, the extent of ethnic enmity measured by variables from the EPR dataset could reveal how ethnicity matters for governance.

The Varieties of Democracy project collects data on over 150 dimensions of political, social and economic life within 160 countries with populations above 500,000 inhabitants. The VDEM project used over 2000 specialist coders to assess various aspects of political and social life and then used sophisticated statistical procedures to assess inter-coder biases and other rigorous tests for reducing error from subjective evaluations. We test several narrower sub-measures of impartiality in public goods provision and governance that go into generating the inclusive variety of democracy. We examine VDEM’s indicators that measure the extent to which public goods are provided over “particularistic” goods, political corruption, “bureaucratic or public sector corruption,” and “judicial accountability.” Essentially, these indicators capture the quality and impartiality of political processes. While most of these variables are highly correlated, there is considerable variation and they may not necessarily be interchangeable, which is why the VDEM project uses multiple dimensions to develop their broader indices of democracy.

Importantly, we also use the Economic Freedom Index, which is a widely-used measure of how liberal (or capitalistic) a country’s economic policies are.
The index is based on five separate dimensions capturing the rule of law and strength of private property rights protection, limited government involvement in the economy, freedom to trade with foreigners, light business regulation, and access to sound money. These five areas are considered “growth-promoting” and progressive and are based on quantitative indicators as well as expert opinion and more qualitative expert evaluation. Even if a society has little corruption, this society may limit the economic opportunities of minorities and other groups by following economic policies that only serve vested interests. The economic freedom index in many ways captures the inclusivity of an economy including the strength of private property rights and minimal government. These data are taken from the Fraser Institute (Gwartney, Lawson and Hall 2015).2

Finally, for comparison and tests of robustness, we also use standard measures of the “control of corruption” and “bureaucratic quality” generated by the PRS group that offers international companies political risk services on a commercial basis. Their data are presented as the International Country Risk Guide (ICRG).3 These data are generated through the consultation of country experts, although cursory observations suggest that the process of data gathering is less transparent and thorough compared with the VDEM project. The ICRG data, however, has been evaluated against competitors and is thought to be a robust measure of “corruption” (Kaufmann, Kraay and Zoido-Lobaton 1999). Table 1 in the appendix provides detailed descriptions of the various good governance measures we use. Appendix Table 2 presents a correlation matrix of all 9 dependent variables employed in this study. As seen there, the subjective corruption perception indexes from the VDEM data and the Index of economic freedom are correlated at $r = 0.60$, while the VDEM and ICRG corruption index are correlated at $r = 0.71$ respectively. While these correlations are high, they clearly capture different dimensions of corruption and governance that may not be interchangeable.

3. How to measure fractionalization?

The question of what social diversity is and how to measure it is as thorny as the issue of what good governance is. Several scholars have argued that simple measures of diversity have failed to capture what is theoretically relevant for explaining outcomes, such as conflict and governance (Chandra 2006). Moreover, what is salient about any group and how to measure fractionalization is not straightforward. Does one, for example, rely on race, skin colour, language, religion, or some other marker? Skin colour is likely to hide a lot of ethnic, linguistic and other cultural differences among black Africans or Indians, for

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2See the Fraser Institute’s website for details. https://www.fraserinstitute.org/studies/economic-freedom.
3We use the ICRG’s researcher dataset from 2016. For full description, see https://www.prsgroup.com/about-us/our-two-methodologies/icrg.
Table 1
The effect of ethno-linguistic fractionalization (Alesina et al) on various measures of governance, 1990-2015

| (1) | (2) | (3) | (4) | (5) | (6) |
|-----|-----|-----|-----|-----|-----|
| Political Corruption | Public sector corruption | Public goods/private goods | Economic Freedom | Control of corruption | Bureaucratic quality |
| Ethno-linguistic fractionalization | 0.0851*** | 0.0598** | -0.335*** | 0.115 | -0.470*** | -0.313*** |
| Income per capita (log) | -0.116*** | -0.121*** | 0.269*** | 0.509*** | 0.355*** | 0.460*** |
| Central & South Asia | 0.198*** | 0.151*** | -0.769*** | 0.235*** | -1.010*** | 0.0601 |
| Latin America | 0.159*** | 0.102*** | -0.991*** | -0.0642 | -1.280*** | -0.742*** |
| Sub Saharan Africa | 0.115*** | 0.114*** | -0.340*** | -0.0916 | -0.802*** | -0.509*** |
| Oceania | -0.0262* | -0.0771*** | -0.811*** | 0.362*** | -0.0881 | 0.253*** |
| South East & East Asia | 0.148*** | 0.138*** | -0.542*** | 0.222*** | -1.016*** | -0.184*** |
| Eastern Europe | 0.174*** | 0.149*** | -0.943*** | -0.434*** | -1.223*** | -0.802*** |
| Middle East and North Africa | 0.270*** | 0.255*** | -1.123*** | -0.333*** | -1.558*** | -0.930*** |
| Constant | 1.256*** | 1.322*** | -0.833*** | 1.539*** | 1.574*** | -1.073*** |
| Countries | 152 | 152 | 152 | 117 | 131 | 131 |
| Observations | 3,723 | 3,445 | 3,724 | 2,764 | 3,134 | 3,134 |

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Year fixed effects YES YES YES YES YES YES

INDRA DE SOYSA/SYNØVE ALMÅS
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example. In the United States, are Black versus White issues more contentious than White versus Hispanic issues, simply because Hispanics are marked by linguistic differences? In Latin America, likewise, most people speak the Spanish language but are racially and ethnically different. Alesina et al (2003), by and large, use a fairly old source identifying ethnic groups collected by Soviet ethnographers, the *Atlas Narodov Mir*.* The Atlas was also the source of ethnic data used by Easterly and Levine (1997).

Alesina et al’s (2003) measure is supplemented from other sources, such as the CIA’s World Fact Book and the Encyclopaedia Britannica, although they do not publish their list of groups. Fearon (2003) moves away from the Soviet Atlas and uses a variety of sources to come up with 822 ethnic groups that make up at least 1% of a population in 160 countries. As Fearon (2004: 2) writes, “… Ethnic distinctions are not a matter of biology but rather are conventions determined by politics and history.” Thus, the best method would be to survey countries and find out how people self-identify, but this type of data still does not exist. The fact that political patronage and diverse preferences are most likely to be a factor of linguistic differences, we focus on Fearon’s (2003) data, which are based more squarely on ethnic and linguistic ties. Fearon (2003) also provides data that measure the structural distance between the majority and the largest minority of a given country by gauging the linguistic distance between languages on a language tree constructed by linguists. The distance in languages is a particularly apt way to measure coordination failure if indeed cultural differences matter given that language is a critical part of mutual understanding and cultural preference (Fearon 2003: 215). We use both sets of data – Fearon’s and Alesina et al’s — for comparison, since it is almost impossible for us to assess the quality of data and theory at the same time.

Despite the different identification strategies of differing ethno-linguistic groups by these researchers, the two datasets are correlated strongly. Alesina et al’s ethnic fractionalization measure is correlated at $r = 0.87$ with Fearon’s (2003) measure of ethno-linguistic fractionalization, and the cultural distance measure at $r = 0.73$ with Alesina et al’s measure of ethnic fractionalization. Since Alesina et al (2003) provide ethnic and linguistic fractionalization separately, we simply take the average of the two variables. This new variable correlate also at $r = 0.87$ with Fearon’s, thus our averaging makes little difference.

As discussed above, a more direct measurement of mutual recrimination between ethnic groups is to gauge the degree of ethnic group exclusion from state power and the extent of actual ethnic discrimination. We rely on the Ethnic Power Relations data, taking the measure of the share of the excluded population and the share of the population of discriminated ethnic groups (Cederman, Wimmer and Min 2010). These measures tell us more about the degree of ethnic enmity and frictions than do any measures of diversity (Cederman and Girardin 2007; Wimmer, Cederman and Min 2009). However, it should be noted that the
EPR data are based on ethnic groups that do make a political claim, so that if a discriminated group suffers in silence they may never get counted (Marquardt and Herrera 2015). Despite this ambiguity, we feel that serious social frictions are better captured by a measure that directly gauges the extent to which people are excluded and discriminated against. The measures of ethnic exclusion and discrimination, however, clearly capture two different dynamics because they correlate only at $r = 0.39$. These two variables are also only very weakly associated with the measures of fractionalization (See Appendix Table 3 for correlation matrix). The correlations suggest, therefore, that these measures proxy very different things.

III. MODELS AND METHOD

We utilize a cross-sectional, time series dataset (TSCS) covering roughly 150 countries for the period 1991 to 2015 (25 years). We pick the post-Cold War years to minimize bias from external influence emanating from super-power rivalry during that era. Since all our dependent variables discussed above are continuous measures, we use standard OLS regression analysis. It should be noted that Alesina and La Ferrara (2005) on whom we base our modelling strategies used cross-sectional analyses on 3 ten-year periods using seemingly-unrelated-regression strategies SURs with a limited number of observations for each decade. We feel our TSCS setup to be superior because even if the diversity variables do not change over time, the dependent variables, particularly those we do use change greatly over time. Their study period is also dominated by the Cold War years whereas we test the two decades after the end of the Cold War. Our main independent variable—ethnic fractionalization—is time invariant, which means that we cannot estimate country fixed effects due to Nickell bias (Angrist and Pischke 2009). However, following others, we include region fixed effects to capture some of the unmeasured fixed factors that maybe common to countries from the different regions (Alesina, Michalopoulos and Papaioannou 2016).

The TSCS data setup generally contains complicated dependencies in the data within and across panels (Beck and Katz 1996). One such dependency is autocorrelation, or temporal dependence, where the error terms from each individual panel correlates over time. The presence of autocorrelation can inflate the standard errors of other independent variables. Initially, we run the Wooldridge test on a basic model and we are unable to accept the null hypothesis of no 1st order serial correlation. Thus, we use OLS with Newey-West standard errors that are robust to serial correlation and heteroscedasticity (Newey and West 1987). Moreover, we estimate all our models by computing year fixed effects, which minimises the chance of a spurious correlation because of trending data.
We follow Alesina and La Ferrara (2005) when choosing our basic models, keeping them simple to avoid overfitting and for ease of interpretation of the main variables of interest (Achen 2005). Following others, our first main independent variable is per capita income to capture the level of development, since social frictions due to ethnic identity are less problematic in these historically democratic and liberal societies. Per capita income is taken from the World Bank’s World Development Indicators (WDI) online database (World Bank 2018). These data are logarithmically transformed to reduce the effects of skewness. Importantly, we also control for country size by using total population size. Large countries, such as India, are likelier to have greater diversity, and large countries might be hampered by other problems of governance. However, there are also very small countries, such as Papua New Guinea that are highly fractionalized. Thus, country size should enter the model independently to capture dynamics of governance relating to demography. These data are also taken from the WDI and logged to reduce skewness. Initially, we test a very simple model using level of development as the only control together with the region fixed effects but include a few other controls in subsequent tests in order to avoid spuriousness of results. Importantly, we include the level of electoral democracy using the VDEM’s polyarchy measure, which assesses the degree to which free and fair elections are held without coercion and violence.

Unlike Alesina and La Ferrara (2005), we control for ongoing civil wars and the history of peace in a country because any form of violent conflict in the past and immediate present could affect ethnic relations and directly affect the outcome variables—good governance. We use the Uppsala Conflict Data Project’s (UCDP) civil wars that are considered an incompatibility between a government and a rebel group(s), which might also be internationalized. These data take the value 1 if there is such a conflict ongoing and the value 0 if not. However, we also add a count variable for the number of years a country has had peace since its independence, taking the year 1946 as the starting point. While these variables are often significantly related to our dependent variables, their omission from the models hardly change the basic results, which are reported in robustness checks. Finally, we add a set of regional dummies for capturing unmeasured regional fixed effects, leaving Western Europe and North America out as a reference category.4

We estimate the following basic model:

\[ Y_{it} = \Phi_1 + \psi_2 \text{Diversity}_{it} + \psi_3 \text{Z}_{it} + u_t + \omega_{it} \]

4Alesina and La Ferrara (2005) also enter terms for legal systems as controls when estimating diversity’s effects on growth and corruption. Since we test the effects on diversity directly on legal security, we avoid using such variables, but we control for electoral democracy.
Where $Y$ denotes the dependent variable to be estimated, $\psi_2$ estimates the effects of our various ethno-linguistic diversity measures, $Z_{it}$ includes the vector of control variables for country $i$ at time $t$ that are discussed above, $\upsilon_t$ are time dummies that estimate separate effects of each year, and $\omega_{it}$ is the error term for country $i$ at time $t$.

IV. RESULTS

Table 1 presents our first set of results examining Alesina et al’s combined ethno-linguistic diversity measure on political corruption, public sector corruption, public goods provision as assessed by the VDEM data project, the index of economic freedom from the Fraser Institute, and the control of corruption and bureaucratic quality as measured by ICRG. We only control for per capita income, or the level of development, and the regional fixed effects.

As seen across the columns, the measure of ethnolinguistic fractionalization is statistically significant in the expected direction for political corruption, public sector corruption, the provision of public goods, the control of corruption from the ICRG and bureaucratic quality. However, ethnolinguistic diversity is positive (statistically not significant) when testing the level of economic freedom. Substantively, a standard deviation increase in ethnolinguistic fractionalization increases political corruption by roughly 8% of a standard deviation in political corruption, but a similar increase in income per capita reduces corruption by almost 65% of a standard deviation in political corruption. Diversity’s effect, even with only one control variable seems substantively very slight. If we just add population size to this basic model, the entire statistical significance of ethnolinguistic diversity vanishes almost across all the columns (results not shown but available upon request). Interestingly, the indirect effects of ethnolinguistic diversity remains small despite the inclusion or exclusion of important mediating variables, such as democracy Table 2.

Next, we test each of our competing measures of diversity, namely Fearon’s and Alesina et al’s measures, on each of the dependent variables measuring governance, but using a fuller set of controls.

As seen in column 1, Fearon’s measure of ethnic fractionalization has a statistically significant positive effect on political corruption. Indeed, all measures associate with higher political corruption, results consistent with Alesina and La Ferrara (2005), who use other measures of corruption. Substantively, raising Fearon’s fractionalization measure by a standard deviation increases political corruption by roughly 9% of a standard deviation of political corruption, which again is very slight. Using the results from column 3, raising Alesina’s measure by a standard deviation, increases corruption by just over 3% of a standard deviation of corruption. Comparatively, raising income per capita by a standard deviation reduces corruption by roughly 40% of a standard deviation of corruption,
## Table 2
The effects of ethnic diversity on political corruption, public sector corruption and particular vs public goods provision, 1991-2015

|                      | (1)      | (2)      | (3)      | (4)      | (5)      | (6)      | (7)      | (8)      | (9)      |
|----------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
|                      | Political corr. | Political corr. | Political corr. | Political corr. | public sector corr. | public sector corr. | public sector corr. | public sector corr. | public goods | public goods | public goods |
| Ethno-linguistic fraction. (Fearon) | 0.0913*** (0.0193) | 0.0739*** (0.0262) | -0.375*** (0.0967) | -0.618*** (0.113) |          |          |          |          |          |
| Cultural distance (Fearon) | 0.124*** (0.0210) | 0.121*** (0.0288) | -0.375*** (0.0967) | -0.618*** (0.113) |          |          |          |          |          |
| Ethno-linguistic fraction. (Alesina et al) | 0.0400* (0.0208) | 0.124*** (0.0280) | 0.121*** (0.0288) | -0.375*** (0.0967) | -0.618*** (0.113) |          |          |          |          |
| Electoral democracy (Vdem) | -0.461*** (0.0249) | -0.458*** (0.0251) | -0.458*** (0.0254) | -0.531*** (0.0242) | -0.527*** (0.0244) | -0.527*** (0.0243) | 2.297*** (1.139) | 2.262*** (1.129) |          |          |
| Income per capita (logged) | -0.0781*** (0.00558) | -0.0778*** (0.00587) | -0.0764*** (0.00539) | 0.0676*** (0.00536) | 0.0669*** (0.00561) | 0.0665*** (0.00505) | 0.0344 (0.0182) | 0.0414** (0.0414) |          |          |
| Population size (logged) | 0.0121*** (0.00357) | 0.0126*** (0.00357) | 0.0126*** (0.00357) | 0.0160*** (0.00348) | 0.0163*** (0.00347) | 0.0163*** (0.00292) | 0.0171 (0.0168) | 0.0482*** (0.0145) |          |          |
| Civil war ongoing | -0.0330*** (0.0103) | -0.0369*** (0.0103) | -0.0376*** (0.0106) | -0.0661*** (0.0128) | 0.0697*** (0.0129) | 0.0594*** (0.0126) | -0.0492 (0.0444) | -0.0444 (0.0444) |          |          |
| Years of peace since last war | 0.00177*** (0.000312) | 0.00172*** (0.000305) | 0.00247*** (0.000338) | 0.0018*** (0.000339) | 0.0015*** (0.000330) | 0.0025*** (0.000344) | 0.0095*** (0.000143) | 0.0084*** (0.000144) | 0.0095*** (0.000137) |          |
| Constant | 1.100*** (0.0697) | 1.084*** (0.0716) | 0.997*** (0.0654) | 0.997*** (0.0751) | 0.972*** (0.0771) | 0.945*** (0.0676) | -0.169 (0.135) | 0.135 (0.322) |          |          |
| Countries | 140 | 139 | 147 | 140 | 139 | 147 | 140 | 139 | 147 |
| Observations | 3,191 | 3,167 | 3,349 | 3,192 | 3,168 | 3,350 | 3,192 | 3,168 | 3,350 |
| Standard errors in parentheses | *** p<0.01, ** p<0.05, * p<0.1 |
| Year fixed effects | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| Region Fixed effects | YES | YES | YES | YES | YES | YES | YES | YES | YES |
which is ten-times greater than the substantive effect of the results obtained by Alesina’s fractionalization index.

In column 4-6, the positive results uphold for Fearon’s measures, although the effect of Alesina’s fractionalization is negative but no longer significant. The same pattern shows up in columns 7 to 9. Indeed, Alesina’s fractionalization has the least support for the association between public sector corruption and the balance between particularistic and public goods. Taking Fearon’s fractionalization results, we compute substantive effects by taking a standard deviation increase in fractionalization, which reduces public goods relative to particularistic goods by 9% of a standard deviation of the dependent variable, which is again fairly small in real-world terms. Comparatively, increasing electoral democracy by a standard deviation would increase public goods by 54% of a standard deviation of the balance between public and particularistic goods. Since some people report a curvilinear relationship between ethnic fractionalization and corruption, we enter a quadratic term in the basic model (Dincer 2008). We find no evidence for a curvilinear, inverted U-shape relationship, which would support arguments about polarization (see Figure 1). Indeed, the effect is linear, but follows the “hockey stick” shape where fractionalization initially reduces corruption and then increases roughly around the mid-point of the diversity index.

Table 3 presents results of the effect of diversity on three of VDEM’s narrower estimates of legal security and the impartiality of the judiciary, namely; Judicial Accountability, Transparency of law & predictable enforcement and Rigorous
Table 3

The effects of ethnic diversity on judicial accountability, transparent laws with predictable enforcement, and rigorous and impartial public administration of law, 1991-2015

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| legal account | legal account | legal account | transparency | transparency | transparency | public admin | public admin | public admin |
| Ethno-linguistic fraction (Fearon) | -0.430*** (0.116) | -0.327*** (0.0955) | -0.422*** (0.107) | -0.322*** (0.119) |
| Cultural distance (Fearon) | -0.791*** (0.126) | -0.507*** (0.102) | -0.168** (0.0856) |
| Ethno-linguistic fraction (Alesina et al) | -0.178 (0.11) | -0.120*** (0.0875) | -0.146*** (0.0892) | 0.0460 (0.0903) |
| Electoral democracy (Vdem) | 1.911*** (0.157) | 1.928*** (0.125) | 3.808*** (0.0968) | 3.047*** 2.902*** |
| Income per capita (logged) | 0.205*** (0.0272) | 0.224*** (0.0228) | 0.352*** (0.0205) | 0.352*** (0.0185) |
| Population size (logged) | 0.00540 (0.0177) | 0.00793 (0.0181) | -0.0593*** -0.0428*** -0.0604*** -0.0663*** |
| Civil war ongoing | 0.192*** (0.0647) | 0.174*** (0.0623) | -0.0276 -0.0199 -0.0498 0.0118 0.0182 0.0212 |
| Years of peace since last war | 0.0105*** (0.00165) | 0.0132*** (0.00133) | 0.00519*** 0.00454*** 0.00726*** 0.00604*** 0.00612*** 0.0122*** |
| Constant | -2.136*** (0.363) | -2.341*** (0.374) | -2.769*** -2.584* -4.301*** -2.612*** -2.399*** -3.504*** |
| Countries | 140 | 139 | 147 | 140 | 139 | 147 | 140 | 139 | 147 |
| Observations | 3,192 | 3,168 | 3,350 | 3,192 | 3,168 | 3,350 | 3,192 | 3,168 | 3,350 |

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Year fixed effects YES YES YES YES YES YES YES YES YES
Region Fixed effects YES YES YES YES YES YES YES YES YES
and impartial public administration according to the law. These measures are designed to estimate the impartiality of the legal apparatus of a country. As seen across the columns, Fearon’s fractionalization measures are consistently negative and statistically significant. Alesina’s measure too is negative but somewhat less robustly significant. In any case, in substantive terms, a standard deviation increase in Fearon’s fractionalization measure reduces the rigorous and impartial application of the law by 8% of a standard deviation, which is extremely small compared with a standard deviation increase in electoral democracy, which increases the application of law impartially by almost 60% of a standard deviation of this variable. Likewise, raising per capita income by a standard deviation raises the quality of the application of law by almost 40% of a standard deviation, independently of all the other variables in the models. Ethnic fractionalization reduces impartiality of the legal system and the impartial application of law, albeit the effects are substantively small.

In Table 4, we present results of the first of our alternative source of good governance, which captures the degree to which economic policies and institutions of economic governance are inclusive; namely the Economic Freedom Index and its 5 subcomponents. We use Alesina’s measure of fractionalization for brevity, but the results are replicated when using Fearon’s measures. As seen in column 1, ethnic fractionalization associates positively with economic freedom, a result that is statistically highly significant and runs in the opposite direction of the VDEM and ICRG governance measures. Substantively, a standard deviation increase in Alesina’s measure of fractionalization increases economic freedom by 11% of a standard deviation in economic freedom. Comparatively, raising income per capita by a standard deviation increases economic freedom by 41% of a standard deviation of economic freedom, or roughly four times the effect of fractionalization. Again, we assess the shape of the relationship by entering a quadratic term in the model. The effect of fractionalization on economic freedom increases linearly (not shown but available on request).

In column 2, fractionalization’s effect on limited government is positive and highly significant. This result supports arguments about how diversity may encourage private markets, whereas relative homogeneity (dominance of a large majority) might lead to government-based patronage through high government spending (Collier 2001b). Substantively, a standard deviation increase in fractionalization increases restraints on government involvement in the economy by 17% of a standard deviation of minimal government. Again, in column 3, diversity encourages greater legal security and property rights, although statistical significance is achieved only at the 10% level. While the effect of fractionalization is not statistically significant when it comes to “sound money”, the effects for freedom to trade and limited business regulation are both positive and statistically highly significant. These results do not support the view that fractionalization has adverse effects on sound and inclusive economic policy, policies that
Table 4
The effects of ethnic diversity on the Fraser Institute’s Index of Economic Freedom and its subcomponents, 1991-2015

|                          | Econ. Freedom Index | Limited govt. | Legal security & property rights | Sound money | Freedom to trade with foreigners | Limited business regulation |
|--------------------------|---------------------|---------------|----------------------------------|-------------|----------------------------------|-----------------------------|
| Ethno-linguistic fraction (Alesina et al) | 0.479*** (0.103)    | 0.901*** (0.199) | 0.257* (0.152)                  | 0.0540 (0.252) | 0.753*** (0.188) | 0.632*** (0.127) |
| Electoral democracy (Vdem) | 1.507*** (0.151)    | 0.220 (0.254)  | 2.023*** (0.228)                | 2.350*** (0.323) | 2.726*** (0.249) | 0.526*** (0.153) |
| Income per capita (logged) | 0.282*** (0.0302)   | -0.134*** (0.0464) | 0.526*** (0.0485)              | 0.210*** (0.0554) | 0.420*** (0.0543) | 0.388*** (0.0317) |
| Population size (logged) | -0.0368** (0.0157)  | 0.00401 (0.0287) | -0.0717*** (0.0218)            | -0.0963*** (0.0361) | 0.0425* (0.0257) | -0.0764*** (0.0194) |
| Civil war ongoing        | -0.227*** (0.0609)  | 0.0891 (0.0989) | -0.433*** (0.0921)             | -0.289* (0.131)   | -0.303*** (0.109) | -0.262*** (0.0672) |
| Years of peace since last war | 0.00213 (0.00155)  | -0.00229 (0.00276) | 0.0164*** (0.00234)          | -0.000505 (0.00313) | 0.000597 (0.00229) | 0.00218 (0.00186) |
| Constant                 | 3.115*** (0.395)    | 5.516*** (0.669) | 1.395*** (0.502)               | 5.631*** (0.834)  | -0.185 (0.780)   | 2.996*** (0.478)  |
| Countries                | 107                 | 107           | 107                             | 107          | 107                             | 107                           |
| Observations             | 2,447               | 2,444         | 2,414                           | 2,456        | 2,315                           | 2,453                         |

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Year fixed effects YES YES YES YES YES YES
Region fixed effects YES YES YES YES YES YES
William Easterly himself has argued are what poor countries need for economic growth and development (Easterly 2006a). These results support others that have argued that ethnic diversity may not harm growth (Bove and Elia 2017; Collier 2001a; Lian and Oneal 1997), cooperation and social trust (Gisselquist, Leiderer and Nino-Zarazua 2016), and the ability to overcome sub-nationalism and engaging for achieving collective goods (Singh 2015), or that diversity hampers good economic management (de Soysa and Vadlamannati 2017).

Why might very similarly-measured dimensions about legal security and property rights between the Fraser Institute’s economic freedom index and the VDEM measures of legal security and impartiality differ, even if the substantive impacts are small either way? First, it might be because of sample size. Thus, we ran the VDEM variables in Table 2 on the smaller sample of countries matching the country coverage in Economic Freedom data presented in Table 3. In every case, the results remained negative and statistically highly significant despite a drop in more than 40 countries from the analysis. These results suggest that VDEM and the Fraser Institute systematically differ in their evaluations of the quality of legal systems and the impartial application of law, corruption, and the provision of public goods. We regressed judicial accountability (VDEM) and rule of law and property rights protection (Fraser Institute) for the year 2014. While there is high correspondence (roughly 50% of the variance is explained) there are some odd differences (see Figure 2).

Figure 2
Relationship between VDEM’s judicial accountability & Legal security and property rights from Fraser Institute’s Economic Freedom Index (2014) [Colour figure can be viewed at wileyonlinelibrary.com]
While Fraser scores Croatia, Malaysia, Czech Republic and Guyana relatively high on the rule of law, the VDEM scores them lower than Turkey and the Philippines, two countries which Fraser scores very low. While we are not in a position to judge which of the data are more correct in this instance, our cursory knowledge suggests that the Fraser coding is possibly more accurate. Since 2014, the rule of law in Turkey and the Philippines is badly eroded. On the other hand, the Fraser institute might focus more on legal security from the point of view of the economy, rather than issues related to politics. For example, Malaysia prides itself on having a good investment climate, but policies favouring the majority Malays and several recent high-profile legal battles involving opposition leaders versus the state is likely to affect expert evaluations about political corruption.

In Table 5, the results of fractionalization’s effects on two indicators of governance according to the ICRG data, namely the control of corruption and bureaucratic quality, are presented. As seen in the first 3 columns, there is no statistically significant relationship between any of the ethnic fractionalization measures and the control of corruption as assessed by the ICRG. In the next 3 columns, however, both measures by Fearon show weakly significant positive effects on bureaucratic quality. Again, there seems to be divergence between the VDEM measures of public sector corruption and the ICRG indicator on bureaucratic quality. Running the fractionalization measure on VDEM’s rigorous and impartial administration (Table 3) on the ICRG sample of countries still yielded a strong negative effect, suggesting that the difference is not due to the different sample sizes. Thus, the differences must be, as in the case with economic freedom, between the VDEM coding and the ICRG’s coding on bureaucratic quality. While the two variables explain 52% of the variance between them, there seem to be several points (in 2014) where there is little correspondence between the two. Again, we stress that we cannot independently verify who is correct, but countries such as Togo, Ivory Coast, Sierra Leone, and Mali get higher marks for rigorous and impartial public administration from VDEM coders than is reflected in the ICRG data, which scores these countries much lower (see Figure 3). Again, one plausible explanation for the differences might be that VDEM emphasizes the political over ICRG’s emphasis on bureaucratic efficiency in economic and financial sectors.

Finally, Table 6 presents the results of a keener, more direct operationalization of ethnic enmity captured by the population share of the excluded ethnic group(s) from state power and the population share of the discriminated ethnic group(s). Rather than use all dependent variables, we simply take measures derived from VDEM, the Fraser Institute’s economic freedom and measures from the ICRG.

As seen in columns 1-3, ethnic exclusion from state power has negative effects on political corruption, economic freedom, and the control of corruption, but these results are statistically no different from zero. In columns 4-6, however, when we use the discriminated population share, the effect on political corruption is negative and statistically highly significant. Surprisingly, greater ethnic
Table 5

The effects of ethnic diversity on the ICRG’s control of corruption and bureaucratic quality, 1991-2015

|                          | Column (1) | Column (2) | Column (3) | Column (4) | Column (5) | Column (6) |
|--------------------------|------------|------------|------------|------------|------------|------------|
|                          | Corruption Control | Corruption Control | Corruption Control | Bureau. Quality | Bureau. Quality | Bureau. Quality |
| Ethno-linguistic fraction. (Fearon) | -0.178 | (0.116) | -0.156 | -0.0270 | 0.191* | (0.0985) |
| Cultural distance (Fearon) |          |          |          |          |          | -0.00293 |
| Ethno-ling. Fract. (Alesina et al) |          |          |          |          |          | (0.0878) |
| Electoral democracy (Vdem) | 1.417*** | (0.121) | 1.349*** | 1.553*** | 0.939*** | 0.964*** |
| Income per capita (logged) | 0.173*** | (0.0305) | 0.138*** | 0.170*** | 0.426*** | 0.434*** |
| Population size (logged)  | -0.0145 | (0.0189) | -0.0243 | -0.0183 | 0.0440*** | 0.0484*** |
| Civil war ongoing         | -0.0372 | (0.0584) | -0.0563 | -0.0112 | 0.0197 | 0.0102 |
| Years of peace since last war | 0.0090*** | (0.00149) | 0.0078*** | 0.0097*** | 0.0071*** | 0.0075*** |
| Constant                  | 2.204*** | (0.417) | 2.810*** | 2.137*** | -2.517*** | -2.714*** |
| Countries                 | 119       | 118       | 120       | 119       | 118       | 120       |
| Observations              | 2,661     | 2,637     | 2,679     | 2,661     | 2,637     | 2,679     |
| Standard errors in parentheses |          |          |          |          |          |          |

*** p<0.01, ** p<0.05, * p<0.1

Year fixed effects: YES
Region fixed effects: YES
discrimination associates with lower political corruption. Substantively, a standard deviation increase in the share of people in an ethnic group that is politically discriminated, political corruption as measured by the VDEM data decreases by 5% of a standard deviation of political corruption. While the effect is fairly small, the direction of the association is certainly not intuitive. The result in column 5, when economic freedom is used, the result substantiates the previous finding on corruption. The greater the degree of discrimination, the higher the level of economic freedom. Curiously, ethnic enmity, as measured by the share of the population excluded from state power and the extent of discrimination, has the opposite effect on corruption and inclusive economic governance. We leave this issue for future studies to unpack more carefully.

We conduct several other tests of robustness to ascertain the validity of our basic results. First, we simplify our models even further by dropping the regional dummies and the conflict variables, allowing fractionalization the chance “to speak even louder” given that some regions, such as Africa are indeed more fractionalized than others. The conflict variables too might be “soaking up” the ill effects of fractionalization. After dropping these variables, the results remain basically the same. There also does not seem to be great change in the substantive impacts, which indicates that ethnic fractionalization is likely to be only weakly related to civil war risk, results reported also by others (Ward, Greenhill and Bakke 2010). Alesina’s ethnic fractionalization measure has a very small positive
Table 6
The effects of ethnic group exclusion from state power and ethnic group discrimination on corruption and economic governance, 1991-2010

|                      | (1)          | (2)          | (3)          | (4)          | (5)          | (6)          |
|----------------------|--------------|--------------|--------------|--------------|--------------|--------------|
|                      | Corruption VDEM | Econ. Freedom FRASER | Corruption control ICRG | Corruption VDEM | Econ. Freedom FRASER | Corruption control ICRG |
| %population of excluded group | -0.000298 (0.00334) | -0.0108 (0.0170) | -0.0270 (0.0180) | -0.149*** (0.0479) | 0.993*** (0.304) | -0.309 (0.290) |
| (log)                |              |              |              |              |              |              |
| %population of discriminated group | -0.459*** (0.0280) | 1.191*** (0.160) | 1.369*** (0.138) | -0.458*** (0.0270) | 1.205*** (0.160) | 1.403*** (0.136) |
| (log)                |              |              |              |              |              |              |
| Electoral democracy (VDEM) | -0.0764*** (0.00623) | 0.261*** (0.0337) | 0.155*** (0.0356) | -0.0749*** (0.00618) | 0.254*** (0.0336) | 0.153*** (0.0354) |
| Income per capita (log) | 0.0154*** (0.00385) | -0.0755*** (0.0198) | -0.0199 (0.0206) | 0.0150*** (0.00385) | -0.0683*** (0.0199) | -0.0243 (0.0210) |
| Population size (log) | -0.0380*** (0.0115) | -0.242*** (0.0661) | -0.0184 (0.0660) | -0.0328*** (0.0117) | -0.272*** (0.0659) | -0.0201 (0.0657) |
| Civil War ongoing | -0.00203*** (0.000347) | -0.00151 (0.00168) | 0.00873*** (0.00176) | -0.00201*** (0.000339) | -0.00139 (0.00157) | 0.00948*** (0.00171) |
| Years of peace since last war | 1.061*** (0.0762) | 4.537*** (0.503) | 2.503*** (0.455) | 1.049*** (0.0760) | 4.467*** (0.505) | 2.521*** (0.455) |
| Constant              | 142          | 2,049        | 2,259        | 142          | 105          | 119          |
| Countries             |              |              |              |              |              |              |
| Observations          | 2,736        | 2,049        | 2,259        | 2,736        | 2,049        | 2,259        |
| Standard errors in parentheses |              |              |              |              |              |              |
| *** p<0.01, ** p<0.05, * p<0.1 |              |              |              |              |              |              |
| Year fixed effects    | YES          | YES          | YES          | YES          | YES          | YES          |
| Region fixed effects  | YES          | YES          | YES          | YES          | YES          | YES          |

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effect on political corruption, but a negative and substantively larger positive effect on economic freedom.

Next, we use our alternative measure of “social frictions” coded by the VDEM dataset that measures the degree to which a government respects the physical integrity of citizens, for example by refraining from political murder, abduction, imprisonment, torture and other forms of violence etc., to test the effects of fractionalization. This indicator also indirectly measures the degree of social dissent in a society, since such acts as political imprisonment and torture occur when a high level of dissent appears against a government (Poe 2004). Using Alesina’s measure of fractionalization, we find a positive effect of higher fractionalization on respect for physical integrity, controlling for electoral democracy, per capita income, population size, and civil war. These results corroborate the findings of others that have used other forms of human rights data (de Soysa and Neumayer 2008; Lee et al. 2004; Walker and Poe 2002). Thus, it does not seem that high diversity generates the frictions that might lead to “physical violence” against civilians by state agents.

Next, we make sure that our basic models are not plagued by multicollinearity by computing variance inflation factor scores (VIF). The average VIF score was 2.7 (well below the problematic region of 4) and none of the individual variables came close to the problematic value of 10. Using the basic model testing political corruption, we computed the cook’s D statistic to detect influential cases. We found no evidence to suggest that unduly influential cases drove our basic results when testing the full sample. Next, we include two variables that might have a bearing on why Alesina et al.’s measure of fractionalization associates positively with Economic Freedom and its components. We enter a term for the share of the population that is urban. Urban societies might be more ethnically fractionalized and contain a modern economy and institutions favourable to capitalistic policies above the effects of income and democracy. These data are obtained from the WDI. Adding the share of the population living in urban areas does not affect the positive effect of ethnic fractionalization on economic freedom. Adding a term measuring the degree to which a country is dependent on natural resource extraction does not affect the basic results of ethnic fractionalization. Thus, our results seem to suggest robustly that ethnic fractionalization is not inimical to good economic governance, even if it shows a very small positive effect on political corruption.

Importantly, we address the question of omitted variables more stringently because our fractionalization measures, which are time invariant, cannot be estimated in standard fixed effects models (Allison 2009). Using the region fixed effects only partially addresses the issue of omitted variables, which assumes that the regions capture unmeasured fixed effects of the countries (individual units) well enough. Alternatively, Allison (2009: 23) offers a “hybrid” solution to estimating the fixed effects of all the other variables in the model while including the time-invariant variables in the model. Essentially, you manually demean the
x variables by subtracting the mean values from the individual units so that the within and the between effects of each of the variables are estimated together with the time-invariant variables in a random effects regression. Since the effect of the time-invariant variables should be the same at any point in time, its effects for each year are now estimated relative to the between and within effects of all the other time-variant variables in the model. When we estimate these hybrid fixed effects models, the result for corruption is now statistically not different from zero, but the positive effect of Alesina’s fractionalization measure holds for economic freedom. Finally, we estimate the explanatory power of our basic models using fractionalization by estimating the $R^2$ with the help of basic OLS regression, since the Newey-West regression does not provide a fit statistic. We find that most of our models explain roughly 60% of the variance in the outcome variables.

V. CONCLUSIONS

Many believe that inclusive institutions that promote impartial governance are the key to the success of states (Acemoglu and Robinson 2012; North, Wallis and Weingast 2013). They argue that ethnic identity-based conflicts occur because some groups may fear victimization by others, reducing trust (Weingast 1998). Indeed, several recent empirical papers suggest that ethnic exclusion from state power is what matters for predicting civil war (Cederman, Wimmer and Min 2010). What type of ethnic endowment a state governs over must have some bearing on how institutions evolve to manage identity-based conflict because as many argue a high degree of cleavages could make governance difficult due to diverse preferences and coordination failure (Alesina, Easterly and Matuszeski 2011; Alesina and La Ferrara 2005; Easterly and Levine 1997). Others suggest the opposite, arguing that high diversity prevents majorities from marginalizing minorities, leading to greater institutionalization of secure rights and freedoms because of cross-cutting cleavages (Collier, Honohan and Moene 2001). We use alternative measures of ethnolinguistic fractionalization and ethnic exclusion and discrimination on several political outcomes capturing inclusive political and economic governance. While we find many of the negative results others report, our analyses show that these results are dependent largely on using measures of political corruption and that they are substantively very slight. Moreover, these negative effects are not robust to the inclusion of important controls.

More interestingly, the effects of higher fractionalization correlate positively with many alternative measures of economic governance based on both subjective and objective indicators. Also, more direct measures of social frictions captured by ethnic exclusion and discrimination correlate positively with good governance, suggesting that ethnic calm exists even where there is bad governance. Future research might try to uncover the exact mechanism by which ethnic peace is
achieved under conditions of bad governance and patronage. Future studies may also examine more closely how economic versus political governance might differ systematically under conditions of high ethnic divisions and what forms of ethnic configurations make political accommodation more or less likely. How economic failure explains the unravelling of ethnic relations is a fruitful area for future research. It might also be extremely fruitful to investigate whether our data collecting methods, particularly subjective evaluations of country experts might be coloured by the loud discourses of ethnic and other grievances where fractionalization is high, even if these discourses are simply normal aspects of political life that have little bearing on how institutions function for driving investment and growth. The recent interest in non-violent conflict might also be a key area to situate the study of how ethnic and other cultural diversity might affect economic development through political dissent and accommodation (Chenoweth and Stephan 2011).

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Appendix Table 1

| Political corruption | Varieties of democracy data | The corruption index includes measures of six distinct types of corruption that cover both different areas and levels of the polity realm, distinguishing between executive, legislative and judicial corruption. Within the executive realm, the measures also distinguish between corruption mostly pertaining to bribery and corruption due to embezzlement. Finally, they differentiate between corruption in the highest echelons of the executive at the level of the rulers/cabinet on the one hand, and in the public sector at large on the other. The measures thus tap into several distinguished types of corruption: both 'petty' and 'grand'; both bribery and theft; or corruption aimed and influencing law making and that affecting implementation. |
| Public sector corruption | Varieties of democracy data | This measure assesses to what extent do public sector employees grant favours in exchange for bribes, kickbacks, or other material inducements, and how often do they steal, embezzle, or misappropriate public funds or other state resources for personal or family use? |
| Public goods provision | Varieties of particularistic goods democracy data | Particularistic spending is narrowly targeted on a specific corporation, sector, social group, region, party, or set of constituents. Such spending may be referred to as "pork", "clientelistic", or "private goods." Public-goods spending is intended to benefit all communities within a society, though it may be means-tested so as to target poor, needy, or otherwise underprivileged constituents. The key point is that all who satisfy the means-test are allowed to receive the benefit. |
| Judicial accountability | Varieties of democracy data | This variable assesses the degree to which the judicial system policies itself. When judges are found responsible for serious misconduct, how often are they removed from their posts or otherwise disciplined? |
| Transparent laws and predictable enforcement | Varieties of democracy data | Are the laws of the land clear, well publicized, coherent (consistent with each other), relatively stable from year to year, and enforced in a predictable manner? |
| Rigorous and impartial public service | Varieties of democracy data | Is the public service responsible to all citizens in an objective manner? This question focuses on the extent to which public officials generally abide by the law and treat like cases alike, or conversely, the extent to which public administration is characterized by arbitrariness and biases (i.e., nepotism, cronyism, or discrimination). The question covers the public officials that handle the cases of ordinary people. If no functioning public administration exists, the lowest score (0) applies. |

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(Continues)
Economic Freedom Index

This index measures the degree to which free-market, capitalistic policies exist in 5 areas; namely 1. The size of government and its involvement in the economy 2. The extent of the rule of law & protection of property rights 3. The access to sound money 4. Freedom to trade with foreigners 5. Business regulation. Each of the areas are assessed using both subjective evaluations and objective measures, such as government spending, tax rates, tariffs etc.

The control of corruption
International country risk guide (ICRG)

This is an assessment of corruption within the political system. Such corruption is a threat to foreign investment for several reasons: it distorts the economic and financial environment; it reduces the efficiency of government and business by enabling people to assume positions of power through patronage rather than ability; and, last but not least, introduces an inherent instability into the political process. The most common form of corruption met directly by business is financial corruption in the form of demands for special payments and bribes connected with import and export licenses, exchange controls, tax assessments, police protection, or loans. Such corruption can make it difficult to conduct business effectively, and in some cases may force the withdrawal or withholding of an investment. Although our measure takes such corruption into account, it is more concerned with actual or potential corruption in the form of excessive patronage, nepotism, job reservations, ‘favor-for-favors’, secret party funding, and suspiciously close ties between politics and business. In our view these insidious sorts of corruption are potentially of much greater risk to foreign business in that they can lead to popular discontent, unrealistic and inefficient controls on the state economy, and encourage the development of the black market. The greatest risk in such corruption is that at some time it will become so overwhelming, or some major scandal will be suddenly revealed, as to provoke a popular backlash, resulting in a fall or overthrow of the government, a major reorganizing or restructuring of the country’s political institutions, or, at worst, a breakdown in law and order, rendering the country ungovernable.

Bureaucratic quality
International country risk guide

The institutional strength and quality of the bureaucracy is another shock absorber that tends to minimize revisions of policy when governments change. Therefore, high points are given to countries where the bureaucracy has the strength and expertise to govern without drastic changes in policy or interruptions in government services. In these low-risk countries, the bureaucracy tends to be somewhat autonomous from political pressure and to have an established mechanism for recruitment and training. Countries that lack the cushioning effect of a strong bureaucracy receive low points because a change in government tends to be traumatic in terms of policy formulation and day-to-day administrative functions.
SUMMARY

To what extent does ethno-linguistic diversity hinder good governance? Using a variety of data measuring political and economic corruption for 150 countries over 24 years, we find positive effects between ethno-linguistic diversity and corruption, but the substantive effects are very slight. Higher diversity also predicts higher economic freedom and its subcomponents, measures routinely used as proxies of sound economic governance. Indicators of ethnic frictions measured as ethnic exclusion from state power and discrimination, show positive effects on good governance, results at odds with the idea that governance is harmed by fraught ethnic relations. These findings suggest that the effects of societal diversity do not uniformly explain the failure of governance. We also find diversity to matter negatively when assessing violent state repression of dissent. The results are robust to a host of alternative specifications, data, and estimating strategy, including the inclusion of region fixed effects and hybrid fixed effects.

SOCIAL DIVERSITY AND GOOD GOVERNANCE

Appendix Table 2
Correlation matrix of the dependent variables

|       | 1         | 2        | 3         | 4         | 5         | 6         | 7         | 8         | 9         |
|-------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.    | Political corruption | 1        |           |           |           |           |           |           |           |
| 2.    | Public sector corruption | 0.9477 | 1         |           |           |           |           |           |           |
| 3.    | Good public admin.     | -0.8703 | -0.8485  | 1         |           |           |           |           |           |
| 4.    | Judicial accountability | -0.7507 | -0.724  | 0.7033   | 1         |           |           |           |           |
| 5.    | public goods provision | -0.7363 | -0.6855  | 0.7468   | 0.5863   | 1         |           |           |           |
| 6.    | Transparency laws      | -0.824  | -0.7953  | 0.8947   | 0.7068   | 0.7542   | 1         |           |           |
| 7.    | Economic Freedom Index | -0.6015 | -0.5975  | 0.6538   | 0.5433   | 0.4632   | 0.631    | 1         |           |
| 8.    | Control of corruption  | -0.7164 | -0.69    | 0.6845   | 0.5576   | 0.578    | 0.6597   | 0.4178   | 1         |
| 9.    | Bureaucratic quality   | -0.7309 | -0.7163  | 0.7039   | 0.6237   | 0.5172   | 0.6758   | 0.6109   | 0.6859   |

Appendix Table 3
Correlation matrix of the main independent variables of interest

|       | 1         | 2         | 3         | 4         | 5         |
|-------|-----------|-----------|-----------|-----------|-----------|
| 1.    | % excluded population | 1        |           |           |           |
| 2.    | % discriminated population | 0.3936 | 1         |           |           |
| 3.    | Ethnic fractionalization (Fearon) | 0.2719 | 0.1515   | 1         |           |
| 4.    | Cultural distance (Fearon) | 0.2948 | 0.0925   | 0.7782   | 1         |
| 5.    | Ethnic fractionalization (Alesina) | 0.2456 | 0.1109   | 0.8645   | 0.7839   |

Appendix Table 4
Correlation matrix of the independent variables

|       | 1         | 2         | 3         | 4         | 5         |
|-------|-----------|-----------|-----------|-----------|-----------|
| 1.    | Ethnic fractionalization (Fearon) | 1        |           |           |           |
| 2.    | Cultural distance (Fearon) | 0.7908 | 1         |           |           |
| 3.    | Ethnic fractionalization (Alesina) | 0.8755 | 0.8017   | 1         |           |
| 4.    | Log income per capita | -0.5049 | -0.4023  | -0.5631  | 1         |
| 5.    | log population size | -0.0741 | 0.0147   | -0.079   | 0.0606   |
| 6.    | electoral democracy (VDEM) | -0.3862 | -0.3013  | -0.4067  | 0.6737   | 0.0743   |
| 7.    | Civil war ongoing | 0.169   | 0.1938   | 0.1855   | -0.1955  | 0.2679   | -0.1657  |
| 8.    | Years of peace since last war | -0.2994 | -0.2745  | -0.288   | 0.3882   | -0.061   | 0.3874   | -0.4311 |

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