Fractionalization, Rent Seeking, and Economic Freedom

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Abstract

Diversity is often thought to create conflict and harm economic institutions. We hypothesize, however, that the impact of diversity is conditional on political institutions, and may be negative in some settings but positive in others, due to differences in the nature of rent seeking in different regimes. To test this hypothesis, we estimate the impact of diversity on economic freedom, conditional on the level of political rights. We find that the marginal impact of ethnic, linguistic, and religious diversity on economic freedom is positive in the most democratic nations, and that the marginal impact of ethnic diversity is negative in the most autocratic nations. Our results suggest that the nature of the relation between diversity and economic institutions may be more complicated than prior literature conveys.

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1 Introduction

In the context of market exchange, diversity is often a force for social good. Diversity of talents, resources, and preferences prompts people to come together and to cooperate, in order to reap gains from trade. In the context of political exchange, unfortunately, diversity may be costly to a society rather than beneficial. Ethnic, linguistic, and religious diversity especially appear to separate people and create conflict. In this paper, we suggest that the impact of such conflict on economic policy may not necessarily be as negative as is commonly understood. More specifically, we hypothesize that the economic impact of diversity is conditional on political institutions, and may be negative in some settings but positive in others, due to differences in the nature of rent seeking in different regimes.

Several previous studies have empirically established a direct relationship between ethnic diversity and "bad" government outcomes (LaPorta et al. 1999, Alesina et al. 1999, 2003, Desmet et al. 2012). The common explanation is that such diversity is associated with heterogeneity in preferences and sometimes also with distrust, dislike, and even hate. Ethnic diversity is thus a source of conflict that affects policy making. Surprisingly, although the literature has explored the relation between ethnic conflict and policy, it has not explored whether or how that relation depends on the democratic and inclusive nature of government or the autocratic and extractive nature of government. Our aim here is to address this gap in the literature.

Consider, for example, the nature of rent seeking in an autocratic political regime. Lack of political freedom and lack of inclusive economic institutions are often coincident, suggesting that autocrats and the political elite with whom they are aligned have substantial latitude to seek and secure rents that enrich themselves at the expense of others. We hypothesize that autocrats in more diverse societies may be more willing to enrich themselves via rent seeking than autocrats in less diverse societies. In a more diverse society there may be more groups that are ethnically, linguistically, or religiously different from the autocrat and associated political elite, and are therefore more vulnerable to being targeted by the autocrat's extractive policies. In more autocratic societies, we

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thus expect greater diversity to be associated with more rent extracting policy and therefore less inclusive economic institutions.

The impact of diversity in the context of a democratic political regime may be quite different, because the nature of rent seeking is quite different. Although politicians in democracies may seek to extract private rents through threats of regulation (McChesney 1987), those who wield political power in democractic societies are less likely to be able to supply rents directly to themselves (as priviledged demographic groups in autocracies may be able to do) due to the presence of formal veto players. Instead, politicians in democratic societies are more likely to have to seek benefits through exchange and to supply policy in response to demands from politically effective groups engaged in rent seeking. In the context of democracy, greater diversity may impact such political exchange in two primary ways. Greater diversity may produce greater competition for policy favors, as rent seeking by one group is more likely to be blocked by another group. As such, while the amount of scarce resources wasted on rent seeking may increase, the degree to which policy that benefits one group at the expense of others and society overall may decrease (Heckelman and Wilson 2013). Another possibility is that diversity makes the coordination and cooperation necessary for the formation of politically effective groups that cross ethnic, linguistic, or religious lines more difficult, and thus makes rent seeking less likely. In this case, both the amount of rent seeking and the amount of rent seeking-induced policy may decrease. Either way, in more democratic societies we expect greater diversity to be associated with more inclusive economic institutions.

Our theory suggests that the nature of the relation between diversity and public policy may be more complicated than prior literature conveys. Moreover, our empirical findings suggest not only that more democratic institutions may mitigate a potentially adverse impact of diversity on economic institutions, but that highly democratic institutions may lead diversity to be associated with a positive impact on economic institutions.

2   Data and Method

Our sample consists of an unbalanced panel with a maximum of 108 countries at six points in time between 1970 and 2002. To capture the inclusiveness of economic institutions, we use the Economic Freedom Index (EFI) developed by Fraser Institute. This index contains five broad categories of economic institutions: Size of Government; Legal System and Property Rights; Sound Money; International Trade; and Regulation. Each category is rated from $0 - 10$ based on the average score assigned to a variety of components within each category. The overall EFI is then calculated as the average score across the five categories, with higher scores representing more economic freedom. More economic freedom thus implies, for example, smaller government and lower taxes; stronger property rights and a more independent judiciary; less inflation and inflation volatility; freer trade in goods, services, capital, and people; and/or fewer business, capital market, and labor market regulations.

To capture diversity, our independent variable of primary interest, we use several measures. The analysis of ethnolinguistic fractionalization for determining government outcomes was first popularized by La Porta et al. (1999), based on data collected by Easterly and Levine (1997). This measure of fractionalization represents the probability that two randomly selected individuals will be from different ethnic or linguistic groups, and is referred to as "Ethno-Linguistic" fractionalization in the tables below. Alesina et al. (2003) created disaggregated variables to separately measure ethnic and linguistic fractionalization. We refer to these variables as "Ethnic" and "Linguistic" fractionalization. Desmet et al. (2012) argued that these (and other related measures) may underrepresent heterogenety by leaving out important cleavages because they are dependent on how the original data sources define the different relevant groups. Desmet et al. (2012) develop alternative measures from "language trees" to represent language cleavages that have persisted through time. The highest level of aggregation "describe(s) cleavages that go back thousands of years" whereas lower levels of aggregation "are the result of more recent cleavages". We consider their ELF15 variable, referred to as "Language" fractionalization in the tables below, which reflects

the lowest level of aggregation from their language trees to make finer distinctions and capture the most recent cleavages. Rather than trying to assess the pros and cons of each fractionalization measure, we take an agnostic approach and use each of these described proxies to see how robust are our results to the way in which fractionalization is measured.

To capture whether a nation's political regime is more autocratic or more democratic, we use the Freedom House political rights index. Freedom House rates each country on a scale from $1-7$. We follow the standard practice of inverting the original scale so that higher numbers represent more political rights in the form of an individual being more able to vote freely in legitimate elections, participate freely in the political process, and/or having representatives that are accountable to the voters. Our primary interest is in assessing the impact of diversity on economic freedom conditional on political rights. To do so, we create interaction terms using the fractionalization variables and the political rights index.

Diverse business interests may also influence economic institutions, via rent seeking and rent protection activities. We therefore also control for the presence of special interest groups which may lobby to influence policy, using counts of such groups. These data come from the six existing editions of *World Guide to Trade Associations* (WGTA), published in 1973, 1980, 1985, 1995, 1999, and 2002. These data largely capture business interests, but also include consumer organizations and employee groups. In principle, it is possible that these data might be related to measures of ethnic, linguistic, and religious diversity. We find however, that the bivariate correlations between the interest group data and the fractionalization data are quite low; fractionalization does not appear to be strongly correlated with the formation of market-based special interest groups.

We also control for the log of GDP and log of population using data from the World Bank's *World Development Indicators*. In prior literature, findings regarding the significance of fractionalization are often not robust to controlling for per capita income (La Porta et al. 1999, Alesina et al. 2003). Finally, we include dummies for each time period, transition nations, and oil exporters.

The EFI data collected by Fraser Institute are available in five year intervals starting in 1970, and annually since 2000. To match the timing of the other variables (in particular the WGTA data)

as closely as possible, we measure the EFI dependent variable in 1975, 1980, 1985, 1995, 1999, and 2002. For GDP and population, we use values in the years that correspond to the publication dates of the various WGTA editions. For the political rights index, we use the average value over each following five-year interval. The fractionalization data are not available as a time series and thus only exhibit cross-sectional variation in our sample.

Estimation is by System GMM. Political rights may both cause and be caused by our dependent variable - economic freedom. We therefore treat the political rights variable as well as its interaction with fractionalization as endogenous. Both GDP and the interest groups variable are treated as weakly exogenous. As external instruments, we use dummies that capture OECD membership, majority Muslim population, and legal system origin (British, French, German, or Scandinavian). Instrument validity is examined with Arellano-Bond AR(2) and Hansen tests.

3   Empirical Findings

Coefficient estimates and associated p-values are reported in Table 1. Of primary interest are the conditional marginal effects of fractionalization that are implied but not directly revealed by the estimates. These conditional marginal effects are reported in Table 2. At the sample mean of the (inverted) political rights index (4.85), the findings in Table 2 indicate that fractionalization has a statistically insignificant impact on economic freedom, consistent with a number of the results related to institutional quality in LaPorta et al. (1999) when controlling for income per capita (as we do by controlling for GDP and population). However, consistent with our hypotheses, the findings indicate a more complex story at higher and lower levels of the political rights index. In countries with a political rights index level of six or above, the impact of fractionalization on economic freedom is positive and statistically significant. Also, in the case of ethnic fractionalization, the impact is negative and statistically significant for countries with a political rights index level of three or below. In other words, greater ethnic and linguistic fractionalization increase economic freedom in sufficiently democratic settings, while ethnic fractionalization reduces economic freedom in sufficiently autocratic settings. These findings suggest that it may be easier to target groups

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for redistributive takings in autocratic settings based on observable ethnic characteristics rather than for linguistic differences. In democracies, it may be that both ethnic and linguistic differences make coordination on rent-seeking activities more difficult. Signs and significance levels are similar whether using linguistic fractionalization from Alesina et al. (2003) or language cleavages from Desmet et al. (2012).

Overall, ethnic fractionalization appears to have a stronger impact at both ends of the political institutional spectrum compared to linguistic fractionalization. In the most democratic countries, changing the population ethnic diversity from purely homogenous to maximally heterogenous would be associated with a 2 unit increase in the country's economic freedom score. In a pure autocracy, such a change would reduce the score almost 5 units on the 10 point scale.

Returning to Table 1, the coefficient estimate on democracy implies that if everyone belongs to the same ethnic group (fractionalization = 0) more democratic countries are characterized by less economic freedom than are more autocratic countries. The difference is statistically significant only in the case of ethnic fractionalization. With no ethnic heterogeneity, neither the political elite of an autocracy nor politicians in democracies have unpopular groups to target for involuntary redistribution. In more democratic countries, however, a homogeneous population may make coordination and cooperation easier and thus increase formation of politically effective groups that successfully seek rents, thereby lowering economic freedom. Such private rent seeking attempts would be expected to be less influential on an autocrat's preferences over policy.

We next seek to determine if the effects of fractionalization differ across different measures of economic freedom. In democratic societies with greater diversity, minority groups that commonly face discrimination may be able to overcome collective action problems associated with diversity and join together to form a politically effective group with respect to anti-discrimination policy. Such policy could either reduce measured economic freedom, for example through increased regulations, or increase measured economic freedom, through greater protection of minority property rights and equality under the rule of law. Our previous estimates suggest the former effect, should it exist, is swamped by the latter effect. Yet relying exclusively on the overall EFI may mask im-

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portant differences which may exist regarding the effect of fractionalization on different types of economic freedom. To examine this possibility, we utilized the same regression specifications but replaced the overall EFI dependent variable with the index value for each of the five broad categories which comprise the overall EFI. To conserve space and focus attention on the conditional impact of fractionalization, we do not report coefficient estimates from the regressions but only present the estimated conditional marginal effects in Tables 3 – 7.

The effects on size of government, reported in Table 3, reveal a similar pattern as for the overall EFI. Fractionalization, however meaured, is correlated with greater economic freedom in the size of government (i.e., smaller government size and lower taxes) in democratic environments and less economic freedom in autocratic environments. The results are statistically significant, however, only for ethnic fractionalization. Increased ethnic fractionalization within societies having a democracy score of 6 or 7 significantly reduces the size of government; the marginal impact in the most autocratic societies (democracy = 1) is more than twice as large in magnitude and opposite in sign, but is not quite statistically significant at conventional levels.

The pattern for the impact of ethnic fractionalization on economic freedom regarding legal systems and property rights, as shown in Table 4, is also similar, but statistical significance is limited to only the most democratic environment. Linguistic fractionalization, however, always improves the enforcment of property rights and independence of the judiciary, and is statisticially significant at the median democracy category level 4 and above for ethno-linguistic fractionalization. Curiously, the most democratic regimes show statistically significant improvement in their legal systems only in category 7 specifically for ethnic, and category levels 5 and 6 specifically for lingustic fractionalization. The estimated marginal impacts of Language cleavages are also always positive, but yet never statistically significant.

The effect of fractionalization on sound money policies, presented in Table 5, is more consistent with the effect on overall economic freedom. Greater economic freedom in the form of lower inflation and inflationary volatility occurs when fractionalization increaes in democracies and when fractionalization decreases in autocracies. Differences in sound money are statistically significant

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only for the democratic settings. These results hold true across all measures of fractionalization.

As shown in Table 6, the conditional marginal impact of fractionalization on freedom in international trade largely mirrors that of sound money. The harmful effect of fractionalization in the most autocratic setting is now statistically significant using La Porta et al.'s ethno-linguistic fractionalization measure. The ethnic fractionalization measure from Alesina et al. is only statistically significant at conventional levels at the democratic extreme.

Finally, in Table 7, we report estimated effects on economic freedom in regulation. Results vary widely depending on whether fractionalization is measured by ethnicity or linguistic/languages. In the former case, ethnic diversity results in greater economic freedom in the form of fewer business, capital market, and labor market regulations across all democracy levels, but impacts are larger and statistically significant at the highest levels of political rights. The reverse pattern occurs regarding linguistic fractionalization. Increases in linguistic fractionalization or language cleavages are associated with more freedom from regulations the more autocratic the government. This is the only case where this occurs to a statistically significant extent. Perhaps reflecting the opposite pattern between ethnic and linguistic fractionalization, the aggregated ethno-linguistic fractionalization measure is always positive, but never statistically significant.

4 Conclusion

In the context of political exchange, as opposed to market exchange, diversity is often thought to create conflict and harm economic institutions. However, we find that the impact of diversity on economic institutions depends on the nature of government, and while negative in some circumstances, is positive in others. In the most autocratic societies, ethnic fractionalization reduces economic freedom, suggesting that greater ethnic diversity creates a stronger incentive for the political elite to intervene in the economy to reward itself at the expense of other less-favored groups. In contrast, in the most democratic societies, ethnic and linguistic fractionalization increase economic freedom, suggesting that diversity may limit the amount of *successful* rent seeking-induced policy, even if it may also increase rent seeking and rent protection efforts. These results are consistent

across a variety of economic freedom categories, with the exception of regulatory policy.

The divisions that diversity creates among the population may thus be especially harmful where political freedoms are limited, and, ironically, helpful for economic freedom where political freedoms are abundant. The findings also suggest that in purely homogeneous societies, the rent seeking associated with democracy may be more damaging with respect to economic freedom than the rent seeking associated with autocracy.

To the extent that diversity is associated with difference, dislike, and distrust that divide people and create conflict, a key concern is the welfare of potentially disadvantaged and vulnerable minority groups. Greater economic freedoom has generally been associated with greater economic growth but its impact on inequality is less clear (Berggren 2003). To the extent that the rising tide of growth associated with economic freedom lifts minority boats, our findings suggest that democracy may serve such groups better in more diverse societies. The greater economic freedom associated with diversity in democracies may also create sufficient competition that market incentives reduce discrimination in market exchange. However, if the divisions created by diversity are sufficiently great, taste-based discrimination may still occur, and policy that protects minority groups from discrimination may be warranted.

In democratic societies with greater diversity, minority groups that commonly face discrimination may be able to overcome collective action problems associated with diversity and join together to form a politically effective group with respect to anti-discrimination policy. Such policy could either reduce measured economic freedom, for example through increased regulations, or increase measured economic freedom, through greater protection of minority property rights and equality under the rule of law. Our findings suggest that such an effect either works through the latter effect, or in the former case does not exist or is swamped by other influences that increase rather than reduce economic freedom. As such, an important avenue for future research may be to explore whether the positive impact of greater diversity in more democratic societies benefits or harms potentially disadvantaged and vulnerable minority groups.

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Table 1 Fractionalization effect on economic freedom

	Fractionalization measure			
	Ethno-Linguistic	Ethnic	Linguistic	Language
Fractionalization	-1.673	-6.111	-1.894	-0.863
	(0.364)	(0.023)	(0.464)	(0.748)
Democracy	-0.128	-0.427	-0.0562	-0.014
	(0.096)	(0.050)	(0.701)	(0.947)
Fractionalization * Democracy	0.664	1.181	0.521	0.286
	(0.044)	(0.005)	(0.175)	(0.498)
Special Interest Groups	0.023	-0.090	-0.134	-0.162
	(0.807)	(0.338)	(0.119)	(0.080)
Gross Domestic Product	0.700	0.833	0.740	0.789
	(0.000)	(0.000)	(0.000)	(0.000)
Population	-0.670	-0.725	-0.588	-0.649
	(0.000)	(0.000)	(0.000)	(0.000)
AR(2) p-value	0.674	0.740	0.580	0.635
Hansen p-value	0.330	0.230	0.224	0.183
no. of observations	573	613	603	616

Notes: Regressions also include a constant as well as time, transition economy, and oil exporter dummies. p-values reported in parentheses are based on heteroskedasticity-corrected and country-clustered standard errors. Errors are Windmeijer-corrected. Orthogonal deviations are used to transfrom the data to remove fixed effects. Weighted estimation is used, with real GDP per capita serving as the weighting series. Excluded instruments are OECD, Muslim, British Law, French Law, German Law, Scandinavian Law. Interest Groups and GDP are treated as predetermined but not strictly exogenous; Democracy is treated as endogenous.

Table 2 Conditional marginal effect of fractionalization on economic freedom

Democracy level	Ethno-Linguistic	Ethnic	Linguistic	Language
7	2.977	2.153	1.755	1.140
	(0.000)	(0.000)	(0.000)	(0.040)
6	2.312	0.972	1.234	0.854
	(0.000)	(0.005)	(0.004)	(0.071)
5	1.648	-0.208	0.713	0.570
	(0.001)	(0.750)	(0.327)	(0.419)
4	0.984	-1.389	0.191	0.282
	(0.145)	(0.183)	(0.859)	(0.790)
3	0.320	-2.569	-0.330	-0.043
	(0.731)	(0.076)	(0.820)	(0.998)
2	-0.345	-3.750	-0.851	-0.290
	(0.778)	(0.044)	(0.641)	(0.876)
1	-1.009	-4.931	-1.373	-0.577
	(0.510)	(0.030)	(0.534)	(0.799)

Notes: Estimates based on Table 1 coefficients. p-values in parentheses.

Table 3 Conditional marginal effect of fractionalization on size of government

Democracy level	Ethno-Linguistic	Ethnic	Linguistic	Language
7	2.533	3.494	1.725	0.937
	(0.278)	(0.006)	(0.267)	(0.619)
6	1.703	1.660	0.791	0.441
	(0.323)	(0.037)	(0.373)	(0.663)
5	0.872	-0.175	-0.143	-0.054
	(0.497)	(0.884)	(0.905)	(0.953)
4	0.042	-2.010	-1.078	-0.550
	(0.973)	(0.315)	(0.608)	(0.752)
3	-0.789	-3.844	-2.012	-1.045
	(0.624)	(0.183)	(0.517)	(0.704)
2	-1.620	-5.679	-2.946	-1.541
	(0.461)	(0.135)	(0.477)	(0.685)
1	-2.450	-7.514	-3.880	-2.036
	(0.394)	(0.112)	(0.455)	(0.676)

Table 4 Conditional marginal effect of fractionalization on legal systems and property rights

Democracy level	Ethno-Linguistic	Ethnic	Linguistic	Language
7	2.180	0.929	0.330	0.230
	(0.047)	(0.053)	(0.632)	(0.782)
6	1.953	0.372	0.815	0.397
	(0.008)	(0.377)	(0.018)	(0.266)
5	1.725	-0.185	1.300	0.564
	(0.003)	(0.829)	(0.061)	(0.267)
4	1.498	-0.742	1.786	0.731
	(0.046)	(0.590)	(0.153)	(0.482)
3	1.271	-1.299	2.271	0.898
	(0.257)	(0.498)	(0.216)	(0.577)
2	1.044	-1.856	2.757	1.065
	(0.501)	(0.451)	(0.256)	(0.627)
1	0.817	-2.412	3.242	1.232
	(0.683)	(0.423)	(0.283)	(0.657)

Table 5 Conditional marginal effect of fractionalization on sound money

Democracy level	Ethno-Linguistic	Ethnic	Linguistic	Language
7	3.165	1.819	2.627	2.315
	(0.010)	(0.002)	(0.001)	(0.002)
6	2.412	0.873	1.874	1.271
	(0.007)	(0.087)	(0.010)	(0.072)
5	1.659	-0.072	1.122	0.227
	(0.038)	(0.935)	(0.415)	(0.846)
4	0.907	-1.017	0.369	-0.816
	(0.364)	(0.456)	(0.865)	(0.646)
3	0.154	-1.962	-0.383	-1.860
	(0.910)	(0.297)	(0.898)	(0.444)
2	-0.598	-2.908	-1.135	-2.903
	(0.742)	(0.228)	(0.767)	(0.348)
1	-1.351	-3.853	-1.888	-3.947
	(0.555)	(0.191)	(0.686)	(0.294)

Table 6 Conditional marginal effect of fractionalization on international trade

Democracy level	Ethno-Linguistic	Ethnic	Linguistic	Language
7	5.252	2.524	3.024	2.694
	(0.000)	(0.002)	(0.000)	(0.000)
6	3.636	0.947	2.067	1.894
	(0.001)	(0.208)	(0.000)	(0.000)
5	2.019	-0.631	1.110	1.094
	(0.044)	(0.630)	(0.123)	(0.236)
4	0.403	-2.208	0.154	0.294
	(0.739)	(0.275)	(0.901)	(0.843)
3	-1.214	-3.786	-0.803	-0.505
	(0.445)	(0.173)	(0.656)	(0.808)
2	-2.830	-5.364	-1.759	-1.305
	(0.168)	(0.130)	(0.461)	(0.626)
1	-4.447	-6.941	-2.716	-2.105
	(0.081)	(0.108)	(0.361)	(0.522)

Table 7 Conditional marginal effect of fractionalization on regulation

Democracy level	Ethno-Linguistic	Ethnic	Linguistic	Language
7	0.915	0.899	-0.204	-0.501
	(0.313)	(0.052)	(0.650)	(0.257)
6	0.963	0.775	0.419	0.155
	(0.152)	(0.050)	(0.293)	(0.680)
5	1.010	0.650	1.042	0.811
	(0.077)	(0.359)	(0.083)	(0.114)
4	1.058	0.526	1.665	1.467
	(0.114)	(0.639)	(0.064)	(0.050)
3	1.105	0.402	2.288	2.122
	(0.222)	(0.796)	(0.062)	(0.036)
2	1.153	0.278	2.910	2.778
	(0.336)	0.889)	(0.063)	(0.032)
1	1.200	0.153	3.534	3.434
	(0.429)	(0.950)	(0.064)	(0.030)