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Tribalism and Finance

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Abstract

We assess the correlations between tribalism and financial development in 60 countries using data averages from 2000-2010. The tribalism index is used to measure tribalism whereas financial development is measured from perspectives of financial intermediary and stock market developments. The long term finance variable is stock market capitalisation while the short run variable is private and domestic credit. We find that tribalism is negatively correlated with financial development and the magnitude of negativity is higher for financial intermediary development relative to stock market development. The findings are particularly relevant to African and Middle Eastern countries where the scourge of tribalism is most pronounced.

1. Introduction

Much work has been devoted to assessing the relationship between financial development and economic development (Levine, 1997, 2005; Ang, 2008). To this end, many angles have been explored over the past decades, notably: the role of the State (Rajan & Zingales, 2003; Ang, 2013; Becerra et al., 2012); law and finance theory (La Porta *et al*., 1997, 1998; Beck *et al*., 2003); power and information credit-oriented theories (Aghion & Bolton, 1992; Djankow *et al*., 2007; Stiglitz & Weiss, 1981); endowment theory (Beck *et al*., 2003); culture (Stulz & Williamson, 2003); genetic distance (Ang & Kumar, 2014); social capital (Guiso et al., 2004), macro-finance (Rajan & Zingales, 1998; Baltagi *et al*., 2009) and human capital (Kodila-Tedika & Asongu, 2015).

There is another strand of the literature which maintains that nations with high ethnic diversity as less likely to develop strong financial systems owing to conflicting positions that are motivated by ethnic inclination (Easterly & Levine, 2003; Beck *et al*., 2003). This theoretical postulation has not withstood empirical scrutiny. Ang and Kumar (2014) have empirically verified this theory without going at length to test the robustness of their results, essentially because it has not been the main line of inquiry motivating their study. Moreover other recent studies by Ang (2013) on the one hand and Kodila-Tedika and Asongu (2015) on the other hand, have not yielded conclusive results.

The purpose of this study is to articulate the importance of division within a nation. To this end, we depart from the extant literature by employing an indicator of tribalism, in place of ethnic fragmentation. Accordingly, tribalism is a doctrine that consists of favouring (without reason) individuals from a given tribe or set of tribes. Hence, this proxy is more holistic compared to ethnic diversity. Mankou

(2007) views tribalism as a sort of ethnic instrumentation, which entails according Jacobson and Deckard (2012) negative externalities of *inter alia*: rent seeking, corruption, inequality, ethnic diversity, indigenous population and group grievance.

In light of the above, we postulate that tribalism inhibits financial development. With the two axiomatic definitions in mind, it is logical to infer that ethnic favouritism results more from tribalism than simply ethnic diversity. Hence the scenario could also be qualified in terms of ethnic dominance. In other words, classical indicators of ethnic diversity that are employed in mainstream literature are limited in articulating the proxy or what they represent. Moreover, as we have stated earlier, the tribalism concept is of broader scope. For instance, political tribalism can be distinguished from monetary tribalism. The former consisting of an ethnocratic tendency with the aim of according tribal privileges in the distribution of positions that confer authority within a nation. It gives priority or exclusivity to the needs of a certain tribe or group of tribes in the distribution of collective resources, which have indiscriminately been accumulated by the collective efforts of a multitude of tribes within a nation.

Monetary tribalism consists of circulating money parsimoniously among hands, most often within a tribe or predominantly among a group of tribes. This allocation which is by definition sub-optimal would substantially inhibit financial development. It reduces innovation and essential interactions needed for financial system expansion. In essence, Burgess *et al*. (2010) and Frank and Rainer (2012) have shown that ethnic favouritism is detrimental to development because it is negatively associated with on education. Meanwhile, education positively affects financial development (Kodila-Tedika & Asongu, 2015) and could break the boundaries of conservatism created by tribalism (Berman, 1998). Moreover, Eifert

et al. (2010) have established that ethnic identification is important in political competition. Following Banerjee and Pande (2007), it is logical to infer that tribalism could substantially influence political leaders to engage in inefficient-friendly practices and adopt policies that are unfavourable to financial development. Berman (1998) also shows that within such a political atmosphere, the doctrine of tribalism leads to conservationism and creates rent seeking elites.

Tribalism could diminish financial development by limiting: money supply, financial depth, liquid liabilities or the proportion of money circulating within the banking sector; bank efficiency (bank credit on bank deposits) if credit is restricted within certain tribal confines. This is also the case of stock market development because business could avoid stock market capitalisation due to the fear of losing tribal control on businesses since the buying of shares in normally associated with voter rights. It is important to critically engage these points because they constitute the intuition motivating the study.

First, tribalism could restrict financial depth by limiting liquid liabilities when investors within a given tribe choose to use informal banking institutions for financial transactions. In such circumstances, lending and borrowing are often among tribal affiliations. This substantially affects the amount of money circulating within formal banking establishments.

Second, by depositing less in formal financial institutions, investors and citizens with tribalistic tendencies affect the quantity of deposits that can be mobilised within the economy and hence, the amount of credit that can be made available to domestic investors (private and public). Moreover, in formal financial institutions where credit allocation is influenced by tribal ties, tribes that are not favoured may be clouded with higher information asymmetry which could lead to:

(i) discriminatory lending practices like higher interest charges and (ii) surplus liquidity issues. Hence, allocation efficiency is negatively affected by tribalism.

Third, businesses with strong family and tribal inclinations may be unwilling to trade their shares in stock markets for fear of losing control or granting voting rights to other tribes. This is one of the reasons for the slow start of the Douala Stock Exchange in Cameroon (Ake & Ognaligui, 2010). Given the above, the contribution of the present study is straight forward and simple to follow: we assess the link between tribalism and financial development.
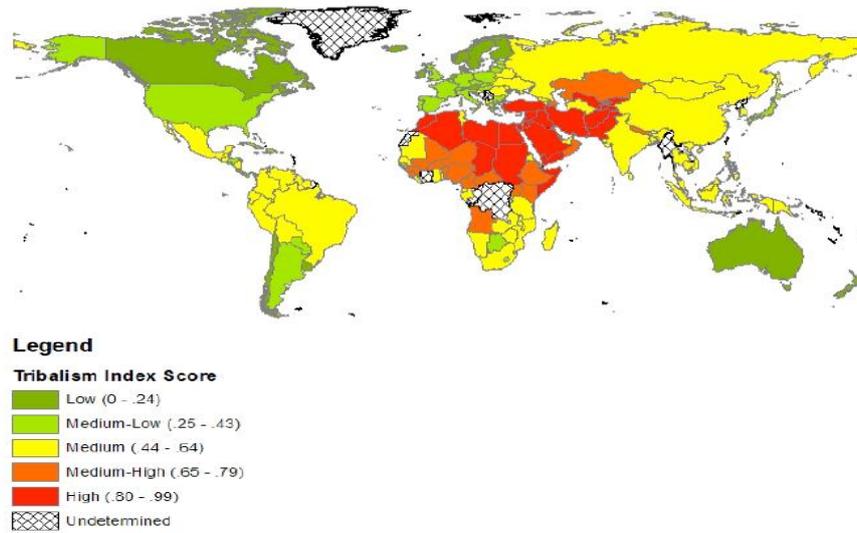
The rest of the study is organised as follows. Section 2 discusses the data and methodology. The empirical analysis and presentation of results are covered in Section 3. Robustness checks are presented in Section 4. We conclude with Section 5.

2. Empirical strategies and data

2.1 Data

The study investigates cross-sectional average data between 2000-2010 from 60 countries. To measure tribalism, we use the tribalism index data from Jacobson and Deckard (2012). It represents a weighted aggregate of detailed components, ranging from a hypothetical lowest score (of 0) to the highest score (of 1). This variable has already been used in several studies, including Asongu and Kodila-Tedika (2017). Figure 1 shows that there exist substantial variations in tribalism across the world. The highest levels can be found primarily developing countries, with the tendency in Africa and the Middle East most pronounced.

FIGURE 1: SPATIAL REPRESENTATION OF THE TRIBALISM INDEX

Legend

Tribalism Index Score

- Low (0 - .24)
- Medium-Low (.25 - .43)
- Medium (.44 - .64)
- Medium-High (.65 - .79)
- High (.80 - .99)
- Undetermined

Source : Jacobson and Deckard (2012)

The dependent variable entails short-run and long-run measures of financial development, respectively in terms of financial intermediary development and stock market development. The former measurement which is consistent with Asongu (2013a) appreciates financial intermediary activity with private domestic credit and domestic credit (allocated to both the private and public sectors of the economy). Following Kodila-Tedika and Asongu (2015) and Kodila-Tedika *et al*. (2017), we use stock market capitalization as a percentage of GDP to measure the latter. We also use domestic credit for robustness checks. The choice of the dependent variable is consistent with recent stock market performance and development literature (Asongu, 2012a, 2013b; Ang & Kumar, 2014).

The choice of control variables is also motivated by recent financial development literature (Ang & Kumar, 2014). They include: trade openness, creditor rights, financial openness, legal origins (British, German, French and Scandinavian), tropics and latitudes. The definitions of these variables and their sources are provided in the appendix. Following Kodila-Tedika and Asongu (2015), we discuss the expected signs concurrently with the results.

The summary statistics is also presented in the appendix. It informs us that: (i) the variables are comparable from the mean values and (ii) we can be confident from the standard deviations that reasonable estimated nexuses would emerge.

2.2. Empirical specification

Consistent with recent financial development literature (Ang& Kumar, 2014; Kodila-Tedika & Asongu, 2015), the specification in Eq. (1) examines the effect of tribalism on financial development across 60 countries.

$$FD_i = \alpha_1 + \alpha_2 Trib_i + \alpha_3 C_i + \varepsilon_i \quad , \tag{1}$$

Where, $FD_i (Trib_i)$ represents a financial development (Tribalism) indicator for country i, α_1 is a constant, C is the vector of control variables, and ε_i the error term. *FD* includes: private domestic credit, domestic credit and stock market capitalisation. *Trib* is the *Tribalism index* from Jacobson and Deckard (2012) while *C* entails: *creditor rights protection*, *trade openness*, *financial openness*, *legal origins*, *tropics* and *latitude*. In accordance with the underlying literature, the interest of Eq. (1) is to estimate if Tribalism affects financial development using Ordinary Least Squares (OLS) with standard errors that are consistent with heteroscedasticity.

Given that outliers may substantially affect the estimated coefficients, we are still consistent with the underlying literature by using Iteratively Reweighted Least Squares and Least Absolute Deviations (LAD) as alternative specifications. While the specification of the former can be adjusted from Eq. (1), we devote space to clarifying the LAD specification. For the purpose of simplicity, let '*FD*' and '*Trib* and *C*' from Eq. (1) be y and x respectively. Such that, the θ th (or 5th quantile)

estimator of financial development is obtained by solving for the following optimization problem:

$$\min_{\beta \in R^k} \left[\sum_{i \in \{i: y_i \geq x_{i'}\beta\}} \theta |y_i - x_{i'}\beta| + \sum_{i \in \{i: y_i < x_{i'}\beta\}} (1-\theta)|y_i - x_{i'}\beta| \right], \qquad (2)$$

where $\theta \in (0,1)$. As opposed to OLS which is fundamentally based on minimizing the sum of squared residuals, with LAD, the weighted sum of absolute deviations are minimised. Hence, the LAD is the 50[th]quantile (or θ =0.50) which is obtained by approximately weighing the residuals. The LAD of financial development or y_i given x_i is:

$$Q_y(\theta / x_i) = x_{i'}\beta_\theta \qquad (3)$$

where the slope parameters are modelled for the θ th specific quantile. This formulation is analogous to $E(y / x) = x_{i'}\beta$ in the OLS slope where parameters are examined only at the mean of financial development. For the model in Eq. (3) the dependent variable y_i is the financial development indicator while x_i contains a constant term, *creditor rights protection, trade openness, financial openness, legal origins, tropics* and *latitude*. The LAD is increasingly employed to complement OLS estimations in development literature, *inter alia* in: corruption (Billger&Goel, 2009; Okada &Samreth, 2012) and financial development (Asongu, 2014) studies.

3. Estimation results

This section presents the estimated results from Eq. (1). It can be noticed that tribalism has a negative correlation with financial development. The relationship is consistently significant even after the control for macroeconomic and institutional

factors. Hence, the findings are in line with the theoretical underpinnings and intuition enunciated in the introduction.

Most of the significant control variables display the expected signs. First, it has been established in the literature that improvement in creditor rights promotes financial development. This is principally because the institutional web for formal rules and informal characteristics that govern how creditors are treated within a nation affect the degree of financial activity within the underlying economy. Second, the impact of financial openness on financial development depends on the proxy used for the latter. In essence, it depends on whether the measurement is financial depth (money supply or liquid liabilities), financial efficiency (bank credit/bank deposits), financial size (deposit bank asset/total assets) or financial activity (credit). In our case, we have used private domestic credit because it represents credit that is actually given to private investors within an economy, as opposed to economic measurements capturing financial deposits, which may not end-up circulating due to surplus liquidity issues. In light of the intuition, greater financial openness logically entails greater financial activity within a domestic economy. This logic is consistent with the sign of financial openness.

Third, on the legal origin variables, countries with German and Scandinavian origins are dropped owing to issues of multicollinearity. Fourth, latitude representing the distance from the Equator is positively linked with financial development because countries in the North are relatively more developed. Fifth, given that most less developed countries are concentrated around the tropics, it is logical for a variable proxying for tropics to be negatively correlated with financial development.

Table 1. OLS estimates of the impact of tribalism on financial development

	1	2	3	4	5	6	7
Tribalism	-1.543***	-1.607***	-1.644***	-1.409***	-1.247***	-1.087***	-1.270***
	(0.353)	(0.347)	(0.375)	(0.381)	(0.376)	(0.314)	(0.322)
crights		0.113***	0.118***	0.096***	0.052	0.050	0.057
		(0.041)	(0.043)	(0.036)	(0.043)	(0.035)	(0.036)
trade_open			-0.091	-0.246	-0.285	-0.243	-0.149
			(0.188)	(0.199)	(0.215)	(0.221)	(0.211)
fin_open				0.124***	0.159***	0.096*	0.087
				(0.039)	(0.049)	(0.055)	(0.053)
legor_uk					-0.180	0.052	0.123
					(0.247)	(0.286)	(0.278)
legor_fr					-0.359	-0.151	-0.149
					(0.230)	(0.279)	(0.274)
legor_ge					(dropped)	(dropped)	(dropped)
legor_sc					(dropped)	(dropped)	(dropped)
lat_abst						0.939***	0.250
						(0.332)	(0.443)
kgatrstr							-0.373*
							(0.201)
Constant	1.385***	1.233***	1.304***	1.121***	1.343***	0.873**	1.225***
	(0.214)	(0.215)	(0.293)	(0.306)	(0.329)	(0.378)	(0.435)
Observations	60	60	60	60	60	60	60
R²	0.308	0.369	0.372	0.429	0.470	0.534	0.561

Notes: .01 - ***; .05 - **; .1 - *;*Crights*:creditor rights protection. *trade_open*:trade openness.*fin_open*:financial openness. *legor_uk*: United Kingdom Legal origin. *legor_fr*: French Legal origin *legor_ge*: German Legal origin. *legor_sc*: Scandinavian Legal origin.*lat_abst*: latitude.*Kgatrstr* : tropics.

4. Robustness checks

In Section 4, we perform robustness checks in a number of ways. First, by employing alternative specification techniques to control for outliers, notably: Iteratively Reweighted Least Squares (IRWLS), the procedure proposed by Hadi (1992) and the LAD method in Eq. (2). Second, by employing alternative financial development indicators, namely: domestic credit for short-term finance and stock market capitalization for long-run financial development. Third, in order to account

for additional unobserved heterogeneity, we control for other effects like: social trust, income levels, continents and intelligence. The robustness checks in the first and second cases are based on Column 7 of Table 1. For brevity and lack of space, we only report the independent variables of interest and the information criteria for validity of models.

Table 2 presents results that control for outliers. The empirical approach follows Huber (1973) on the use of IRWLS. As has been noted by Midi and Talib (2008), in comparison to OLS, the procedure has the advantage of producing robust estimators because they simultaneously fix any concern arising from the presence of outliers and/or heteroskedasticity (non-constant error variances). In the second column, the technique of Hadi (1992) is employed to detect outliers. The following countries are detected and excluded from the estimation: Mali, Egypt, Belgium, Niger, Netherlands, Senegal, Syria, United Kingdom, Bangladesh, Algeria, Morocco, Pakistan, Tunisia and Turkey. In Column 3, the result with LAD is presented, with standard errors that are bootstrapped with 1000 repetitions. The correlations between tribalism and financial development are consistent with those in Table 1.

Table 2: Controlling from outliers

	IRWLS	Hadi (1992)	**LAD**
Tribalism	-1.273***	-1.651**	-1.189**
	(0.384)	(0.748)	(0.569)
Constant	1.458***	2.029***	1.388**
	(0.357)	(0.564)	(0.675)
Number of observations	60	46	60
R²	0.700	0.552	

Notes: .01 - ***; .05 - **; .1 - *; A constant and all control variables (i.e., creditor rights, trade openness, financial openness, trade openness x financial openness, legal origins dummies and geographic variables) used in Table 1 are included in the estimations but the results are not reported to conserve space. Figures in parentheses are robust standard errors.

In Table 3, we employ domestic credit and stock market capitalization as alternative measurements of financial development for further robustness checks. The former (latter) is a short (long) term measurement for financial intermediary (stock market) development. The findings which confirm the direction of the underlying relationships further reveal that irrespective of the measurement of financial development employed, with the exception of the lower degree of association with stock market capitalization, the sensitivity of tribalism is almost the same. This is essentially because the magnitude of the estimate corresponding to domestic credit is broadly consistent with that from private domestic credit in Table 1.

Table 3. Alternative measures of financial development

	Domesticcredit/GDP	Stock marketcapitalization/GDP
Tribalism	-1.551***	-0.593*
	(0.515)	(0.304)
Constant	1.989**	0.649**
	(0.828)	(0.267)
Number of observations	60	54
R²	0.558	0.610

Notes: .01 - ***; .05 - **; .1 - *; A constant and all control variables (i.e., creditor rights, trade openness, financial openness, trade openness, financial openness, legal origins dummies, and geographic variables) used in Table 1 are included in the estimations but the results are not reported to conserve space. Figures in parentheses are robust standard errors.

For further robustness check purposes, we control for other effects to confirm the baseline results. These include: social trust, income levels, intelligence and regions (Africa, Europe, Asia, Americas and Oceania). The definitions of these variables and their corresponding sources are provided in the Appendix. The control for these additional indicators can broadly be considered as controlling for the unobserved heterogeneity not accounted for in baseline regressions.

The following findings are established. First, the fact that social trust is positively linked to financial development confirms the antagonistic role of tribalism which

entails limited trust or trust confined within a certain tribe or groups of tribes. According to Guiso *et al*. (2004), nations with high levels of social trust are endowed with households that invest less in cash, which have greater access to formal institutional credit (measured as financial activity in our study).

Table 4. Controlling for other effects

	Add Social trust	Addincome	Add continent	Add IQ
Tribalism	-1.358***	-1.022***	-1.595***	-1.094***
	(0.471)	(0.283)	(0.389)	(0.274)
Social trust	1.452***			
	(0.496)			
Income		0.260***		
		(0.045)		
Africa			-0.433***	
			(0.141)	
Europe			-0.620***	
			(0.230)	
Asia			(dropped)	
Americas			-0.559**	
			(0.260)	
Oceania			0.188	
			(0.192)	
IQ				0.031***
				(0.006)
Constant	1.418***	-0.486	1.865***	-1.225**
	(0.506)	(0.383)	(0.394)	(0.573)
Number of observations	53	59	60	59
R^2	0.654	0.717	0.692	0.730

Second, high-income is associated with higher levels in financial development. This is the case with advanced countries relative to their less developed counterparts. Third, the positive role of intelligence, proxied with the intellectual quotient (IQ), is consistent with Kodila-Tedika and Asongu (2015). Fourth, on continental influences, Asia is dropped due to concerns about multicollinearity while Oceania is not significant. Africa, Americas and Europe are negatively correlated with increasing magnitudes respectively.

5. Concluding implications

We have assessed the correlations between tribalism and financial development in 60 countries using data averages from 2000-2010. The tribalism index is used to measure tribalism whereas financial development is measured from perspectives of financial intermediary and stock market developments. The long-term indicator is stock market capitalisation while the short-run variable includes private and domestic credits. We find that tribalism is negatively correlated with financial development and the magnitude of negativity is higher for financial intermediary development relative to stock market development. These findings are robust to alternative estimation techniques and control for a multitude of factors.

The negative magnitude of tribalism on short-term financial development is higher than the corresponding relationship with long-run financial development because, it is more likely for the banking sector to be captured by tribalistic practices. Some other justifications include: (i) stock market development is more globalised (or opened) relative to financial intermediary market development and (ii) the absence of well-functioning stock markets in many developing countries. The findings are particularly relevant to African and Middle Eastern countries where the scourge of tribalism is most pronounced.

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Appendix

Appendix A. Data sources and summary statistics of variables

Table A1
Definitions and Sources of variables.

Variables	Definitions	Sources
Privatecredit	"Value of financial intermediaries credits to the private sector as a share of GDP (excludes credit to the public sector and credit issued by central and development banks), average over 2000–2010"	World Bank WDI online database; Beck et al. (2010)
Domesticcredit	"Comprised of private credit as well as credit to the public sector (central and local governments and public enterprise) as a share of GDP, average over 2000–2010"	World Bank WDI online database; Beck et al. (2010)
Stock marketcapitalization	"Value of listed companies shares on domestic exchanges as a share of GDP, average over 2000–2010"	World Bank WDI online database; Beck et al. (2010)
Creditorrights	"An index of the protection of creditor rights in 2000. It reflects the ease with which creditors can secure assets in the event of bankruptcy. It takes on discrete values of 0 (weak creditor rights) to 4 (strong creditor rights)"	Djankov et al. (2007)
Trade openness	"Sum of exports and imports of goods and services as a share of GDP in 2000"	World Bank WDI online Database
Financial openness	"Sum of gross stock of foreign assets and liabilities as a share of GDP in 2000"	Lane et al. (2007)
LegalOrigins	"Dummy variable that takes a value of one if a country's legal system is of French, German or Scandinavian Civil Law origin and zero otherwise"	La Porta et al. (2008)
Latitude	"Absolute value of the latitude of a country, scaled between zero and one, where zero is for the location of the equator and one is for the poles"	La Porta et al. (1999)
Tropics	"The percentage of land area classified as tropical and subtropical based on the Koeppen-Geiger system"	Gallup et al. (1999)
Religion variables	"A set of three variables that identifies the percentage of a country's population in the 1980s that follows Catholic, Muslim and Other religion"	La Porta et al. (1999)
Tribalism		Jacobson and Deckard (2012)
Social Capital	"Data on trust between individuals in a given country. Measured by taking the percentage of a population that answers 'Yes' to the World Value Survey (WVS) question 'In general, do you think that most people can be trusted?', supplemented by data from the Danish Social Capital Project, the Latinobarometro and the Afrobarometer"	Bjørnskov (2008)
Intelligence	Average of IQ	Meisenberg and Lynn (2011)
Income	Natural logarithm of GDP per capita	Penn World Tables Feenstra et al. (2015)

Table A2.
Descriptive statistics

Variables	Observations	Mean	Standard Deviation	Minimum	Maximum
Privatecredit	180	0.504	0.463	0.019	2.303
Tribalism	60	0.539	0.1886	0.2	0.995
Creditorrights	216	1.826	0.935	0	4
Trade openness	180	0.883	0.509	0.010	3.720
Financial openness	177	2.156	2.521	0.424	23.977
Latitude	208	0.283	0.189	0.0110	0.8
Tropics	165	0.374	0.436	0	1
Catholic	207	0.320	0.360	0	0.991
Muslim	207	0.219	0.353	0	0.999
Protestant	205	0.145	0.233	0	0.998
Domesticcredit	180	0.596	0.544	-0.297	3.111
Stock marketcapitalization	124	0.494	0.584	0	4.238
InstitutionalQuality	189	2.338	3.782	-6.654	9.419
Social Capital	111	0.262	0.140	0.034	0.654
Income	180	8.528	1.304	5.561	11.142