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Law, Finance, Economic Growth and Welfare: Why Does Legal Origin Matter?

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Abstract: *This paper proposes four theories on why legal origin influences growth and welfare through finance. This article provides empirical validation on these theories. It is a natural extension of "Law and finance: why does legal origin matter?" by Thorsten Beck, Asli Demirgüç-Kunt and Ross Levine (2003). We find only partial support for the Mundell (1972), La Porta et al. (1998) and Beck et al. (2003) hypotheses that countries which have adopted or adapted the British common law system (a British colonial legacy) tend to have better developed financial intermediaries than countries which adopted the French legal system or civil law. Common law systems have evolved over the ages and are largely based on consensus and precedent while civil law systems are largely based on a code of law. Countries with English legal tradition have legal systems that improve financial depth, activity and size while countries which apply French legal system or an adaptation of it overwhelmingly dominate in financial intermediary allocation efficiency. Countries which practise Portuguese legal system fall in-between.*

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1. Introduction

The relationship between legal origin and the finance-growth nexus has been explored in the literature through various strands of research. The literature on this can be categorised into five strands. With respect to the first strand of research, a growing body of work suggests that differences in legal origins explain cross-country disparities in financial development and growth. La Porta et al. (LLSV, 1998) and many authors have generalized that common law countries have better prospects for financial development compared with those which have codified the French civil law. They postulated that common law countries versus countries that adopted the French civil law traditions provide the strongest legal protection to shareholders and creditors (LLSV, 1998a, 2000b). This belief in the superiority of the English legal tradition has been extended to other aspects: more informative accounting standards (LLSV, 1998), better institutions with less corrupt governments (LLSV, 1999) and more efficient courts (Djankov et al., 2003). Thus, the present research discusses "*if legal origins matter in financial development*" and *if* they matter, *why*?

In the second strand of research, Beck et al. (2003) shed some light on why

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legal origins matter in finance by examining two theories based on channels. The political channel stresses that legal traditions differ in the priority they give to the rights of individual investor vis-à-vis the state which obviously has effects on financial development. The adaptability channel postulates that legal traditions differ in their ability to adjust and adapt to changing commercial circumstances, implying that countries with legal systems that provide for adjustments (in their capacity to deal with changes) have a higher propensity for financial development. Thus, this theory solves the "why" puzzle and explains that legal origin matters for finance because legal traditions differ in their ability to adapt efficiently to changing economic conditions.

The third strand stresses on the importance of financial development which is believed to significantly contribute to a country's overall economic growth (McKinnon, 1973). This positive finance-led-growth nexus has been empirically supported at the country level (King & Levine, 1993; Levine & Zervos, 1998) as well as at industry and firm levels (Jayaratne & Strahan, 1996; Rajan & Zingales, 1998).

The fourth strand of research adds growth to the first strand in providing evidence for the link among law, finance and economic growth at firm, industry and country levels (Demirguc-Kunt & Maksimovic, 1998; Beck & Levine, 2002).

The fifth strand, based on Mundell's conjecture (1972), has established that Anglophone countries in Africa which have been influenced by British activism and openness (to experiment) would naturally witness a higher level of financial development than their Francophone neighbours who are influenced by French dependence on monetary rules and automaticity. To cite him in verbatim: "*The French and English traditions in monetary theory and history have been different… The French tradition has stressed the passive nature of monetary policy and the importance of exchange stability with convertibility; stability has been achieved at the expense of institutional development and monetary experience. The British countries by opting for monetary independence have sacrificed stability, but gained monetary experience and better developed monetary institutions*." (Mundell, 1972, p.42-43). The carving of sub-Saharan Africa into British and French spheres in the 19th century and antagonistic colonial policies[1] have prompted many researchers in the past decade to investigate how colonial origin has influenced the finance-growth nexus through legal traditions (Mundell, 1972; Assane & Malamud,2010 ; Agbor, 2011).

The present paper discusses the aforementioned five strands and investigates the law-finance-growth phenomenon with financial intermediary (depth, efficiency, size, activity) and growth (welfare and GDP growth) dynamics within a colonial-legacy framework. First and foremost, it complements the first and second strands by assessing if common law

traditions provide better prospects for finance with all quantifiable dynamics of financial intermediation identified by the Financial Development and Structure Database (FDSD) of the World Bank (WB); this would either confirm or reject the generalisation that common law countries (countries which practice French civil law) provide the strongest (weakest) environment for financial development. Second, inspired by the second and fourth strands, the article contributes to literature by showing why legal traditions affect economic growth and welfare through financial development. In like manner, as the second strand has solved the puzzle of why legal origins matter in finance the article will postulate and empirically examine channels via which growth is affected by legal origins through finance. With regard to the third strand, the empirical analysis provides evidence as to whether a positive finance-growth nexus holds with respect to legal origins in the context of financial intermediary dynamics. The colonial legacy context of this paper helps assess the validity of Mundell's conjecture in the fifth strand. Last but not the least, the distinction of growth aspects (such as welfare and GDP growth) in the analysis sheds more light and provide additional grounds for a generalisation on the nexus factor. Thus, the following testable hypotheses are proposed:

H1: Legal origins explain growth and welfare through our proposed financial channels (See Section 2).

H2: The Mundell (1972), La Porta et al. (1998)[2] and Beck et al. (2003)[3] hypotheses apply to every dynamic of financial intermediation.

The rest of the paper is organised as follows. Section 2 discusses various financial channels to growth and welfare. Data sources and methodology are outlined and described respectively in Section 3 while Section 4 provides empirical analysis as well as discusses the results. We conclude and summarise in Section 5.

2. Law, legal-origin, finance and growth theory

We propose the following law-finance and growth theories based on four financial intermediary channels.

2.1 The financial depth channel

The financial depth channel is based on two premises: money supply and liquid liabilities. We postulate that the quantity of money in the economy (M2) as well as the amount held in deposit by banks and other financial institutions (financial system deposits) depend on the legal tradition. In other words, money supply and liquid liabilities depend on legal origins. If the depth of finance either in the overall economy (M2) or in banks (liquid

liabilities) is determined by legal tradition, then it should be higher in common law countries because they provide a more open and favourable environment (trade and capital) and competition. Historically, the ruling class opposed financial development because it provided a competitive edge to their rivals and thereby, reducing their potential margins. Common law legal systems based on private property rights favoured competition and openness. To buttress this point, the British and French adopted different colonial policies. While the French imposed a highly centralised bureaucratic system that clearly underlined empire-building, the British on the other hand administered decentralised, flexible and pragmatic policies. Economic motives dominated British colonial project whereby the colonial master sought to transform their colonies into commercially viable trading communities through the policy of indirect rule. The colonies were rich in natural resources which were a source of raw materials for the colonial masters and were manufactured into finished products in Britain and re-exported to the colonies as British manufactures. The French achieved their primary imperial motive through the policy of assimilation. Therefore, British colonial policies which had their base in common law provided for legal systems that favoured financial depth, both at the macro-economic and bank levels. This has been empirically verified by Rajan and Zingales (2003) who used data from 1913 to 1999. Countries with higher levels of financial depth and activity are expected to grow more rapidly.

2.2 The financial efficiency channel

Financial intermediary allocation efficiency channels are based on two factors: bank system efficiency and financial system efficiency. We postulate that countries with French civil law traditions should have legal systems that provide for greater levels of allocation efficiency because their banks lend a greater chunk of mobilised funds (deposits). The civil law tradition has always stressed the passive nature of monetary policy, the importance of exchange stability with convertibility and the need for explicit deposit insurance. On the other hand, common law legal systems with no explicit insurance deposits and monetary independence have sacrificed stability for monetary experience and better developed monetary institutions. Therefore, a greater proportion of deposits mobilised by banks are retained in common law countries to avoid a bank-run. A substantial deterrent to a bank-run is exchange rate stability, championed by countries which adopted the French civil law traditions. Thus, these countries with high levels of allocation efficiency should focus on improving growth and welfare.

2.3 The financial size channel

The relative importance of openness and competition should favour a broader financial system in common law countries compared with their counterparts which apply the French and Portuguese legal traditions. If a positive finance-growth nexus results as a consequence, then we can infer that common law traditions should give birth to legal systems that induce higher growth and welfare gains through their inherent positive effect on broadening financial systems.

2.4 The financial activity channel

The financial activity channel is based on two premises: 'private credit by domestic banks' for banking system activity and 'private domestic credit from banks and other financial institutions' for financial system activity. Financial activity and financial depth, though different in conception, have the same theoretical basis (see Section 2.1). Thus, activity and depth are two interrelated financial channels that influence growth and welfare affecting common law countries in a greater degree followed by countries which have been influenced by Portuguese (French based) civil law traditions and lastly by countries with French civil law legal tradition.

3. Data and Methodology

3.1 Data

Data is extracted from 26 sub-Saharan African (SSA) countries which have retained the French, Portuguese and British legal systems. The study period is between 1986 and 2009 (see Appendix 1 for details). The small number of countries under study is due to constraints in data availability number as well as duration of study. The origins of legal traditions were taken into account when selecting the countries which consider the endogeneity factor. Beck et al. (2003) and Berkowitz et al. (2002) pointed out the importance of distinguishing between the countries which gave birth to the legal traditions (United Kingdom, France, the United States, Germany, Austria and Switzerland) and countries which inherited the legal system. However, this is not a big issue for the article because legal origins are primarily used as instruments. Data is classified into three categories. Each category is discussed in depth below.

3.1.1 Financial channels

Indicators of financial channels are obtained from the Financial Development and Structure Database (FDSD) after computations. We could not use data from financial markets because with the exception of Côte d'Ivoire, such data is not available for other countries with French civil law tradition. The regional nature of financial markets in Côte d'Ivoire makes it even harder to disentangle individual contributions of the eight West African countries that make up (seven French countries and one Portuguese country) the region. In sharp contrast however, we found many common law countries (countries which adopted the British legal tradition) have adequate information on the stock market (Ghana, Kenya, Malawi, Mauritius, Namibia, Nigeria, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe among others). This disparity poses a practical difficulty in having a harmonious comparison criterion for stock market data. Thus, the analysis has been restricted to the financial intermediary framework.

a) Financial depth channel

In terms of hypotheses, the study proxies for financial depth both from overall economic and financial system perspectives, with indicators of broad money supply (M2/GDP) and financial system deposits (Fdgdp) respectively. These two variables should robustly check each other in the course of the analysis since more than 96% of 'financial system deposits' information is contained in broad money supply (Appendix 3). These indicators of financial depth are consistent with recent studies on African financial system (Asongu, 2013ab, 2014abc).

b) Financial allocation efficiency channel

Neither the profitability-oriented concept of financial efficiency nor the production efficiency of decision making units in the financial sector is referred to here (through Data Envelopment Analysis). What is emphasised in the article is the banks' ability to effectively address their fundamental role of transforming deposits into credit for economic operators. Based on the findings of recent studies on law and finance (Asongu, 2011), two proxies were adopted: banking system efficiency and financial system efficiency ("bank credit on bank deposits" and "financial system credit on financial system deposits respectively). Preliminary correlation analysis (Appendix 3) shows that the latter can check the former and vice-versa, as the former contains over 96% of variability in the latter.

c) Financial size channel

Consistent with the FDSD, we measure financial intermediary activity as the ratio of "deposit bank assets" to the sum of "deposit bank assets and central bank assets". Unfortunately, (unlike in proxies for other channels) we do not find another proxy that overlap significantly with this variable despite numerous computations.

d) Financial activity channel

This is the ability of banks to grant credit to economic operators. We check bank-sector- activity with financial-sector-activity, proxied by "private domestic credit" and "private credit by domestic banks and other financial institutions" respectively. Correlation analysis shows that each contains more than 98% of information in the other (Appendix 3).

3.1.2 Growth and Welfare

The GDP growth and GDP per capita growth rates are used as indicators of growth and welfare respectively as discussed in studies on finance and growth (Levine & King, 1993; Hassan et al., 2011). African Development Indicators (ADI) of the World Bank is the source of this data.

3.1.3 Control variables

Based on studies on finance (Levine & King, 1993; Hassan et al., 2011), we control for inflation, trade, population growth and general government final consumption expenditure in the finance-growth regressions. These control variables are also obtained from the ADI.

3.2 Methodology

Consistent with the findings of Beck at al. (2003) and recent literature on African legal origins (Agbor, 2011), we use Two-Stage-Least-Squares (TSLS) with dummies of legal origins as instrumental variables. Beyond the numerous advantages of using TSLS (to other conventional regression methods) the object of this paper (which is to assess how legal origins affect growth through proposed financial channels) requires an Instrumental Variable (hence IV) estimation method. Therefore, in the course of the IV analysis we shall demonstrate the following:

a) justify the use of a TSLS over an Ordinary Least Squares (OLS) estimation method with the Hausman test for endogeneity;
b) show that the instruments (legal origins) explain the endogenous components of explanatory variables (financial channels), conditional on other covariates (control variables);

c) assess whether the instruments are valid (and not correlated with the error term of the explanatory equation) with an Over-Identifying Restriction (OIR) test.

Our estimation approach entails the following steps.

First stage regression:

$$FinancialChannel_{it} = \gamma_0 + \gamma_1 (British)_i + \gamma_2 (French)_i + \gamma_3 (Portuguese)_i + \alpha i X_{it} + \upsilon_{it}$$

Second stage regression: (1)

$$Growth_{it} = \gamma_0 + \gamma_1 (FinancialChannel)_{it} + \beta i X_{it} + \mu_{it} \quad (2)$$

In both equations, X is a set of independent exogenous control variables that are included in some of the second stage regressions. For the first and second stage equations, v and u, respectively denote the error terms. Instrumental variables are the three legal origin dummies.

4. Cross-country regressions

This section discusses results from panel regressions to assess the importance of legal origin in explaining cross-country variances in economic growth and welfare. That is, the propensity of legal origins to explain cross-country differences in financial channel indicators and the ability of exogenous components of financial channels to account for cross-country disparities in growth and welfare.

4.1 Legal origins, growth and welfare

Consistent with Beck et al. (2003), we regress growth and welfare indicators on British, French and Portuguese legal system dummies by a simple OLS and further test for their joint significance (see Table 1). Our choice of only three legal origins is due to data constraints and in line with recent literature findings (Agbor, 2011). The Fisher test results for legal origin dummies in Table 1 confirm the consensus that distinguishing countries by legal origin helps elucidate cross-country differences in growth and welfare. Even after controlling for government expenditure and population growth, there is overwhelming evidence that common law countries grow faster in terms of GDP and welfare than those which inherited the French legal system or tradition. Countries with Portuguese legal origin (inspired by French civil law) are between the English and the French. These initial findings are consistent with the empirical literature on sub-Saharan Africa (Mundell, 1972; Agbor, 2011)[4]. Consistent with Beck et al. (2003), the instruments are significantly different from each other.

Table 1: Legal origins and growth

		Base Model (Growth: GDPg)		Robustness (Welfare: GDPpcg)	
Legal origin (dummies)	English	**4.291*** (15.46)**	**5.915*** (9.024)**	**1.825*** (6.690)**	**5.149*** (5.462)**
	French	**2.803*** (10.61)**	**4.009*** (7.544)**	**0.041 (0.158)**	**3.30*** (3.630)**
	Portuguese	**4.619*** (8.73)**	**5.859*** (8.312)**	**2.375*** (4.572)**	**5.155*** (5.642)**
Control variables	Gov. Expenditure	---	**-0.095*** (-2.714)**	---	**-0.085** (-2.403)**
	Population Growth	---	---	---	**-0.773*** (-3.432)**
F-test for legal origin (dummies)		**9.479*** **	**8.704*** **	**14.832*** **	**10.795*** **
Adjusted. R^2		0.026	0.038	0.042	0.062
Number of observations		621	585	621	585

GDP growth rate. GDPpcg: GDP per capita growth rate. *,**,***; significance at 10%, 5% and 1% respectively.

4.2 Legal origins and financial channels

Table 2 below investigates using simple OLS whether legal origin explains cross-country differences in financial intermediary development. We regress proxies for various financial channels on legal origins when other covariates apply (Panel B) as well as when they do not (Panel A). The regression of financial channels on instruments is an essential condition in the TSLS approach (Eq. 1). These first stage regressions provide the basis for considering the instruments as strong and worthwhile . In both panels and for all endogenous repressors (financial channels), there is an overwhelming evidence the instruments are significant determinants of finance. We report the Fisher (F) statistics which test whether legal origin dummy variables taken together significantly explain cross-country variations in the financial channel indicators. Consistent with the finance and growth theory (see Section 2), findings in Table 2 indicate that common law countries have significantly greater levels of financial depth and activity. Those which adopted the French civil law also have significantly higher levels of allocation efficiency, while countries with British legal tradition dominate in financial intermediary size. In line with Agbor (2011), the countries that adopted Portuguese legal system fall between the French and the English legal traditions. Accordingly, results in Table 2 are broadly consistent with the hypotheses on the law-finance-growth theory outlined in Section 2.

Table 2: Legal origins, financial depth, efficiency, activity and size

		Panel A: First Stage Regressions Without control variables						
		Financial Depth		Financial Efficiency		Financial Activity		Fin. Size
		Base M.	Robust M.	Base M.	Robust M.	Base M.	Robust M.	Base M.
		M2	Fdgdp	Bcbd	Fcfd	Pcrb	Pcrbof	Dbacba
Legal origin (dummies)	English	0.345***	0.290***	0.545***	0.563***	0.149***	0.163***	0.699***
		(30.69)	(27.51)	(26.67)	(28.55)	(20.94)	(22.43)	(49.77)
	French	0.203***	0.130***	1.018***	1.010***	0.129***	0.129***	0.695***
		(19.05)	(12.94)	(52.30)	(53.58)	(19.04)	(18.69)	(52.57)
	Portuguese	0.356***	0.251***	0.716***	0.701***	0.148***	0.147***	0.631***
		(16.05)	(11.66)	(17.88)	(17.37)	(10.13)	(9.934)	(23.20)
F-test(legal origin)		48.01***	61.90***	141.8***	136.43***	2.141	5.49***	2.62*
Adjusted. R^2		0.138	0.172	0.313	0.316	0.003	0.015	0.005
Num. of observations		588	586	617	586	586	586	611
		Panel B: First Stage Regressions With control variables(conditional on other covariates)						
Legal origin (dummies)	English	0.336***	0.274***	0.590***	0.653***	0.190***	0.196***	0.540***
		(7.941)	(6.968)	(6.844)	(7.589)	(6.378)	(6.456)	(10.23)
	French	0.248***	0.170***	1.016***	1.050***	0.185***	0.178***	0.572***
		(6.449)	(4.755)	(12.95)	(13.37)	(6.824)	(6.428)	(11.95)
	Portuguese	0.441***	0.323***	0.768***	0.800***	0.230***	0.224***	0.579***
		(10.58)	(8.325)	(9.391)	(9.424)	(7.833)	(7.454)	(11.60)

Table 2: (continued)

		Panel A: First Stage Regressions Without control variables						
		Financial Depth		Financial Efficiency		Financial Activity		Fin. Size
		Base M.	Robust M.	Base M.	Robust M.	Base M.	Robust M.	Base M.
		M2	Fdgdp	Bcbd	Fcfd	Pcrb	Pcrbof	Dbacba
	Trade	0.001***	0.001***	-0.001***	-0.001***	0.0004***	0.0004***	0.001***
		(5.866)	(6.404)	(-3.176)	(-3.919)	(3.030)	(2.757)	(6.856)
	Inflation	-0.001***	-0.001***	-0.002***	-0.001***	-0.0007***	-0.0008***	-0.003***
Control variables		(-3.503)	(-3.472)	(-3.519)	(-2.895)	(-3.345)	(-3.596)	(-6.653)
	Gov.	0.003**	0.002**	0.004	0.003	-0.0003	0.0002	0.002
		(2.353)	(2.427)	(1.624)	(1.353)	(-0.344)	(0.288)	(1.246)
	Pop.	-0.055***	-0.053***	0.020	0.016	-0.026***	-0.026***	-0.005
		(-6.141)	(-6.436)	(1.109)	(0.884)	(-4.228)	(-4.034)	(-0.462)
F-test (legal origin)		63.41***	72.85***	55.38***	54.81***	15.30***	15.89***	24.80***
Adjusted. R^2		0.414	0.448	0.371	0.378	0.139	0.144	0.207
Num. of observations		530	532	552	532	532	532	546

M2: Broad money supply. Fdgdp: Financial deposit on GDP. Bcbd: Bank credit on bank deposits. Fcfd: Financial credit on financial deposits. Dbacba: deposit bank assets/(deposit bank assets + central bank assets). Pcrb: Private domestic credit on GDP. Prcbof: Private credit from domestic banks and other financial institutions on GDP. English: English legal origin dummy. French: French legal origin dummy. Portuguese: Portuguese legal origin dummy. GDPg: GDP growth rate. GDPpcg: GDP per capita growth rate. Gov: Government final expenditure. Pop: Population growth rate. *,**,***; significance at 10%,5% and 1% respectively. M: Model. Num: Number.

4.3 Examination of financial channels using a simple instrumental variable procedure

Table 3 and Table 4 show whether the exogenous components of financial channels explain growth and welfare on the one hand and whether legal origin explains growth and welfare through some other mechanisms beside the proposed financial channels. To make these assessments, the TSLS with heteroskedasticity and autocorrelation consistent (HAC) standard errors were used. The first and second stage regressions were based respectively on Eq. (1) and Eq. (2) of Sections 3.2. Rejection of the null hypothesis of the Hausman-test in 27 of the 28 regressions in Tables 3-4 indicate the presence of endogeneity and justify the use of a TSLS estimation approach. While coefficients of financial channels address the first issue after controlling for potential endogeneity, the second issue is examined using the OIR test. The null hypothesis of the Sargan-OIR test suggests that the instrumental variables do not suffer from the same problem of endogeneity as the exogenous components of the endogenous regressors (financial channels) and therefore are not correlated with the error terms of the equations of interest (second stage regressions). Thus, a rejection of the OIR test implies that legal origins explain growth (and welfare) using some other mechanisms beside financial channels. In controlling for other potential exogenous determinants of growth (and welfare) we do not include all the control variables in panel B of Table 2 because of the limited number of instruments[6]. Robustness of the models is ensured by alternative indicators of financial channels. Results in Table 3 support the fact that the exogenous components of financial depth and efficiency explain growth and welfare. However (but for the effect of financial depth on welfare), given the rejection of the OIR test in almost all the regressions, legal origin dummies explain growth and welfare through mechanisms beyond financial depth and efficiency channels.

Table 4 below shows whether the exogenous components of financial size and activity explain growth and whether legal origin explains growth beyond the financial size and activity channels. We employ the same TSLS methodology as above. Results suggest that the exogenous components of financial activity and size explain growth and welfare. Given the overwhelming rejection of the OIR test, we conclude that the instruments explain growth and welfare through mechanisms beyond financial intermediary activity and size channels.

Table 3: The depth and efficeincy channels

Panel A: Two-stage-least squares regressions with Financial Depth channel								
Variables and tests	Growth(GDPg) regressions				Welfare(GDPpcg) regressions			
	Mod.1	Mod.1*	Mod.2	Mod.2*	Mod.3	Mod.3*	Mod.4	Mod.4*
M2	**12.92*** **	---	**11.55** **	---	**4.33*** **	---	**10.75*** **	---
	(8.76)		**(2.130)**		**(5.32)**		**(3.170)**	
Fdgdp	---	**16.36*** **	---	7.398	---	**5.681*** **	---	**10.44*** **
		(16.57)		(1.318)		**(5.453)**		**(3.134)**
Gov.	---	---	0.029	**0.143***	---	---	---	---
			(0.288)	**(1.752)**				
Pop.	---	---	---	---	---	---	**-0.72** **	-0.42
							(-2.103)	(-1.620)
Hausman test	**139.9*** **	**147.76*** **	**80.40*** **	**74.36*** **	**9.69*** **	**8.76*** **	**25.29*** **	**16.58*** **
OIR(Sargan) test	**0.860**	7.15**	**0.809**	3.658*	11.66***	8.25**	**0.356**	**2.05**
	[0.650]	[0.027]	**[0.368]**	[0.055]	[0.002]	[0.016]	**[0.550]**	**[0.151]**
Weak I. Test(F-stats)	**1154*** **	**353.48*** **	---	---	**1154*** **	**584*** **	---	---

Panel B: Two-stage-least squares regressions with Financial Efficiency channel								
	Growth(GDPg) regressions				Welfare(GDPpcg) regressions			
	Mod.1	Mod.1*	Mod.2	Mod.2*	Mod.3	Mod.3*	Mod.4	Mod.4*
Bcbd	**4.02*** **	---	-0.74		**0.93** **	---	**-4.77** **	---
	(9.065)		(-0.852)		**(2.555)**		**(-2.126)**	

Table 3: (continued)

	Panel B: Two-stage-least squares regressions with Financial Efficiency channel							
	Growth(GDPg) regressions				Welfare(GDPpcg) regressions			
	Mod.1	Mod.1*	Mod.2	Mod.2*	Mod.3	Mod.3*	Mod.4	Mod.4*
Fcfd	---	**4.09*** **	---	-0.69	---	**0.95** **	---	**-5.44** **
		(8.725)		(-0.721)		**(2.521)**		**(-2.204)**
Gov.	---	---	**0.28*** **	**0.28*** **	---	---	---	---
			(5.370)	**(5.120)**				
Pop.	---	---	---	---	---	---	**1.85** **	**2.04** **
							(2.372)	**(2.387)**
Hausman test	**102.3*** **	**79.84*** **	**102.4*** **	**89.02*** **	**31.68*** **	**24.20*** **	**34.21*** **	**43.93*** **
OIR(Sargan) test	62.50*** **	57.93*** **	7.07*** **	5.93**	38.39*** **	34.55*** **	10.66*** **	5.87**
	[0.000]	[0.000]	[0.007]	[0.014]	[0.000]	[0.000]	[0.001]	[0.015]
Weak I. Test(F-stats)	**1311*** **	**1394*** **	---	---	**1311*** **	**1394*** **	---	---

M2: Broad money supply. Fdgdp: Financial deposit on GDP. Bcbd: Bank credit on bank deposits. Fcfd: Financial credit on financial deposits. English: English legal origin dummy. French: French legal origin dummy. Portuguese: Portuguese legal origin dummy. GDPg: GDP growth rate. GDPpcg: GDP per capita growth rate. Gov: Government final expenditure. Pop: Population growth rate. *,**,***; significance at 10%,5% and 1% respectively. (): z-statistics. Chi-square statistics for Hausman test. LM statistics for Sargan test. [ ]: p-values. Weak I. Test (F-stats): F-statistics for Weak Instrument test at first stage regression. OIR: overidentifying restrictions.

Table 4: The activiity and size channels

Panel A: Two-stage-least squares regressions with Financial Activity channel								
Variables and tests	Growth(GDPg) regressions				Welfare(GDPpcg) regressions			
	Mod.1	Mod.1*	Mod.2	Mod.2*	Mod.3	Mod.3*	Mod.4	Mod.4*
Pcrb.	**26.26*** **	---	8.06	---	**7.81*** **	---	50.78	---
	(7.818)		(0.349)		**(4.266)**		(1.068)	
Pcrbof.	---	**25.21*** **	---	40.44	---	**7.64*** **	---	37.66
		(7.737)		(0.390)		**(4.401)**		(1.283)
Gov.	---	---	0.176	-0.14	---	---	---	---
			(0.798)	(-0.13)				
Pop.	---	---	---	---	---	---	-2.27	-1.66
							(-0.999)	(-1.148)
Hausman test	**179.3*** **	**178*** **	**73.41*** **	**75.63*** **	**13.09*** **	**14.32*** **	**36.58*** **	**34.84*** **
OIR(Sargan) test	5.073*	**3.82**	6.97***	3.32*	20.33***	18.82***	**0.21**	**1.20**
	[0.079]	**[0.147]**	[0.008]	[0.068]	[0.000]	[0.000]	**[0.641]**	**[0.273]**
Weak I. Test(F-stats)	**394*** **	**407*** **	---	---	**394*** **	**407*** **	---	---

Panel B: Two-stage-least squares regressions with Financial Size channel				
	Growth(GDPg) regressions		Welfare(GDPpcg) regressions	
	Mod.1	Mod.2	Mod.3	Mod.4
Dbacba	**5.21*** **	-2.39	**1.49*** **	18.17
	(13.64)	(-0.684)	**(3.77)**	(1.184)

Table 4: (Ccontinued)

	Panel B: Two-stage-least squares regressions with Financial Size channel			
	Growth(GDPg) regressions		Welfare(GDPpcg) regressions	
	Mod.1	Mod.2	Mod.3	Mod.4
Gov.	---	**0.35****	---	
		(2.15)		
Pop.	---		---	-4.39
				(-1.133)
Hausman test	**19.53*****	**36.36*****	0.49	**22.50*****
OIR(Sargan) test	19.41***	**6.78**	28.88***	**1.352**
	[0.000]	**[0.009]**	[0.000]	**[0.244]**
Weak I. Test(F-stats)	**2567*****		2567***	

Dbacba: deposit bank assets/(deposit bank assets + central bank assets). Pcrb: Private domestic credit on GDP. Prcbof: Private credit from domestic banks and other financial institutions on GDP. English: English legal origin dummy. French: French legal origin dummy. Portuguese: Portuguese legal origin dummy. GDPg: GDP growth rate. GDPpcg: GDP per capita growth rate. Gov: Government final expenditure. Pop: Population growth rate. *,**,***; significance at 10%,5% and 1% respectively. (): z-statistics. Chi-square statistics for Hausman test. LM statistics for Sargan test. [ ]:p-values. Weak I. Test (F-stats): F-statistics for Weak Instrument test at first stage regression. OIR: overidentifying restrictions.

4.3 Examination of channels using an extended instrumental variable procedure

This section explores the financial channels simultaneously using an extended version of the instrumental variable procedure. It draws from Beck et al. (2003). Due to constraints in instrumental variables (only three present) and issues related to multicollinearity and overparameterisation, we explore simultaneous channels only on a bivariate basis. Examining more than two endogenous regressors simultaneously will result in exact-identification or under-identification which renders the OIR test practically impossible. Therefore, we assess whether exogenous components of the financial channels explain growth. As in earlier regressions, the presence of two proxies for each channel allows for robustness checks. Rejection of the null hypotheses of the Hausman tests in all 24 regressions in Table 5 indicates the presence of endogeneity and justifies the estimation methodology (TSLS). For the most part, results also suggest that legal origin explains growth (and welfare) through financial channels and not through other mechanisms. For either growth or welfare, we robustly examine 12 regressions using two different financial channels. Of the 24 regressions, 19 do not reject the OIR test, implying the null hypothesis that legal origin explains growth (and welfare) only through financial channels is not rejected. Four of the 5 regressions that reject the OIR test involve simultaneous use of size and efficiency variables (either in growth or welfare regressions). This implies legal origins do not explain growth only through financial size and efficiency channels. The instruments are not only valid through the OIR test but also strong because 20 of the 24 Cragg-Donald statistics for weak instrument test exceed critical values of the 5% significance level; implying the null hypothesis for the existence of weak instruments is rejected for the most part. The presence of negative finance-growth nexuses for certain channels (efficiency and size) corroborates the results in Tables 3 and 4 respectively. Table 3 shows the negative results for financial efficiency were expected but those (negative coefficients) of financial activity and size (Panel B of Table 5) resulting from their simultaneous application (with depth and activity respectively) could be explained by their high correlations (see Appendix 3). This explanation is consistent with Beck et al. (2003). While the effects of legal origins through financial channels are greater for GDP growth than for welfare when financial channels are considered independently (see Tables 3-4), financial channels when simultaneously considered, the effects may weigh in favour of either growth or welfare depending on the dynamics (combination of channels). This could be an interesting future research topic.

Table 5: Growth, welfare and financial channels

Financial		**Panel A: Two-stage-least squares regressions with Growth and financial channels**											
Channels	Variables	Depth and Efficiency		Depth and Activity		Depth and Size		Efficiency and Activity		Efficiency and Size		Activity and Size	
		Model 1	Model 1*	Model 2	Model 2*	Model 3	Model 3*	Model 4	Model 4*	Model 5	Model 5*	Model 6	Model 6*
	M2	**11.68*** **	---	**9.41** **	---	**10.17*** **	---	---	---	---	---	---	---
		(8.048)		**(2.380**		**(3.940)**							
Depth	Fdgdp	---	**12.72*** **	---	6.36	---	**9.36*** **	---	---	---	---	---	---
			(7.813)		(1.532)		**(3.740)**						
	Bcbd	0.47		---	---	---	---	**-1.69***	---	**-3.00*** **	---	---	---
		(0.906)						**(-1.846)**		**(-3.516)**			
Efficiency	Fcfd	---	**1.22*** **	---	---	---	---	---	-1.02	---	**-3.34*** **	---	---
			(2.736)						(-1.261)		**(-3.494)**		
	Pcrb	---	---	7.11	---	---	---	**35.40*** **	---	---	---	**63.29** **	---
				(0.869)				**(6.732)**				**(2.405)**	
Activity	Pcrbof	---	---	---	**15.75** **	---	---	---	**30.49*** **	---	---	---	**40.81*** **
					(2.477)				**(6.785)**				**(2.795)**
Size	Dbacba	---	---	---	---	1.08	**2.38*** **	---	---	**8.65*** **	**9.11*** **	-7.72	-3.45
						(0.988)	**(2.882)**			**(8.521)**	**(8.004)**	(-1.425)	(-1.099)
Hausman test		**124.84*** **	**110.62*** **	**136.17*** **	**160.58*** **	**41.54*** **	**36.82*** **	**163.99*** **	**147.00*** **	**45.82*** **	**39.28*** **	**37.12*** **	**35.89*** **
OIR(Sargan) test		**0.021**	**1.313**	**0.068**	**1.65**	**0.302**	**2.291**	**0.887**	**1.88**	6.56**	4.86**	**0.125**	**1.42**
		[0.884]	**[0.251]**	**[0.793]**	**[0.198]**	**[0.582]**	**[0.130]**	**[0.346]**	**[0.170]**	[0.010]	[0.027]	**[0.722]**	**[0.233]**

Table 5: Continued

Panel B: Two-stage-least squares regressions with Welfare and financial channels													
		Efficiency and Size		Activity and Size		Depth and Efficiency		Depth and Activity		Depth and Size		Efficiency and Activity	
		Model 1	Model 1*	Model 2	Model 2*	Model 3	Model 3*	Model 4	Model 4*	Model 5	Model 5*	Model 6	Model 6*
	M2	**7.98*** **	---	**15.74*** **	---	**11.86*** **	---	---	---	---	---	---	---
Depth		**(6.144)**		**(4.345)**		**(4.700)**							
	Fdgdp	---	**8.61*** **	---	**14.47*** **	---	**11.15*** **	---	---	---	---	---	---
			(5.930)		**(4.187)**		**(4.655)**						
	Bcbd	**-1.53*** **	---	---	---	---	---	**-2.93*** **	---	**-3.72*** **	---	---	---
Efficiency		**(-3.273)**						**(-3.902)**		**(-4.642)**			
	Fcfd	---	**-0.98** **	---	---	---	---	---	**-2.48*** **	---	**-4.06*** **	---	---
			(-2.470)						**(-3.667)**		**(-4.553)**		
	Pcrb	---	---	**-24.15*** **	---	---	---	**23.62*** **	---	---	---	**73.85*** **	---
Activity				**(-3.222)**				**(5.488)**				**(2.646)**	
	Pcrbof	---	---	---	**-13.85*** **	---	---	---	**20.51*** **	---	---		**48.74*** **
					(-2.620)				**(5.445)**				**(3.218)**
Size	Dbacba	---	---	---	---	**-3.38*** **	**-1.95** **	---	---	**5.75*** **	**6.15*** **	**-13.67*** **	**-8.93*** **
						(-3.143)	**(-2.470)**			**(6.031)**	**(5.803)**	**(-2.377)**	**(-2.738)**
Hausman test		**33.01*** **	**26.83*** **	**18.73*** **	**12.85*** **	**25.94*** **	**19.08*** **	**50.57*** **	**45.24*** **	**7.57** **	**7.40** **	**30.38*** **	**28.53*** **
OIR(Sargan) test		**0.893**	**2.68**	**0.001**	**2.08**	**0.043**	**2.06**	**2.22**	3.33*	8.50***	5.57**	**0.026**	**1.12**
		[0.344]	**[0.101]**	**[0.972]**	**[0.148]**	**[0.835]**	**[0.150]**	**[0.135]**	[0.067]	[0.003]	[0.018]	**[0.870]**	**[0.289]**

(**Table 5**: (Continued)

Panel B: Two-stage-least squares regressions with Welfare and financial channels												
	Efficiency and Size		Activity and Size		Depth and Efficiency		Depth and Activity		Depth and Size		Efficiency and Activity	
	Model 1	Model 1*	Model 2	Model 2*	Model 3	Model 3*	Model 4	Model 4*	Model 5	Model 5*	Model 6	Model 6*
Cragg-Donald M.E.V test	**94.83**	**92.64**	**24.29**	**55.59**	**46.41**	**59.96**	**37.45**	**45.31**	**63.33**	**53.40**	3.39	6.83
Observations	584	585	583	585	579	579	585	585	608	579	579	579

M2: Broad money supply. Fdgdp: Financial deposit on GDP . Bcbd: Bank credit on bank deposits. Fcfd: Financial credit on financial deposits. Dbacba: deposit bank assets/(deposit bank assets + central bank assets). Pcrb: Private domestic credit on GDP. Prcbof: Private credit from domestic banks and other financial institutions on GDP. English: English legal origin dummy. French: French legalorigin dummy. Portuguese: Portuguese legal origin dummy. GDPg: GDP growth rate. GDPpcg: GDP per capita growth rate. Gov: Government final expenditure. Pop: Population growth rate. *,**,***; significance at 10%,5% and 1% respectively. (): z-statistics. Chi-square statistics for Hausman test. LM statistics for Sargan test. [ ]:p-values. Weak I. Test (F-stats): F-statistics for Weak Instrumenttest at first stage regression. OIR: overidentifying restrictions. The critical value of Cragg-Donald's statistics for weak instrument test at 5% significance level with a desired maximal bias (of the Instrumental Variable estimator relative to OLS) of 10% is 13.43.

5. Conclusion

Past studies have shown that legal origin explains growth (Mundell, 1973; Agbor, 2011) but what is unique about this article is that it examined the financial mechanisms through which legal origin explains growth. Four channels were proposed. The financial depth and activity channels postulate that legal origins determine money supply, liquid liabilities and ability of financial institutions to allocate credit to economic operators. Common law countries should experience higher levels of financial depth and activity because their legal tradition provides for a legal system that champions private property rights, a more favourable environment for openness (trade and capital) and competition. Countries that inherited civil law systems from the French are least in financial depth and activity because historically their laws regarding finance were formulated and implemented to champion imperialism and financial stability rather than openness and monetary experience. Consistent with Agbor (2011), countries which adopted the Portuguese legal system (which is based on the French civil law) did not perform as well (in depth and activity) compared with common law countries; but they performed better than those countries which inherited the French civil law tradition. Financial intermediary efficiency is highest in Francophone countries because the French tradition has always stressed the passive nature of monetary policy, the importance of exchange stability with convertibility and, the need for explicit deposit insurance. For the fourth channel (financial size), the relative importance of openness and competition should favour a broader financial system in common law countries than those that adopted the civil law system (inspired by French and Portuguese legal tradition). If a positive finance-growth nexus applies, then we can infer that common law traditions should induce higher growth and welfare gains through their inherent positive effect on broadening financial systems.

Findings of this study support the theory that legal origins explain growth and welfare through financial channels because they are inherently business or risk-averse friendly. Legal systems that provide conditions for openness, competition and free financial market enterprise benefit welfare and economic growth, while legal systems that are founded on championing the power of the state, monetary stability and imperialism experience significantly lower growth and improvements in most financial channels are negligible. Moreover, a legal system that is favourable to financial stability (through monetary dependence and explicit deposit insurance) should gain in financial intermediary efficiency. These findings have contributed to the literature by partially rejecting Mundell (1972), La Porta et al. (1998) and Beck et al. (2003) hypotheses.

Two caveats must be highlighted. First, growth rate is arbitrary and depends on the chosen period. Hence, growth rates in the 1960s might reflect different outcomes. Second, the results are valid only with respect to the sampled 26 African countries. Therefore, owing to poor quality of data, the findings cannot be generalised.

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Notes

1. The British and French colonial powers implemented different policies in their colonies. While the French imposed a highly centralised bureaucratic system that clearly underlined empire-building, the British on the other hand introduced decentralised, flexible and pragmatic policies. Economic motives dominated British colonial activities who sought to transform their colonies into commercially viable trading communities through indirect-rule whereby the colonies produced raw materials and consumed British manufactures. The French imperial motive was achieved through the policy of assimilation.
2. The result show that common law countries generally offer the strongest legal protection for corporate shareholders and creditors, while countries which adopt civil law traditions are the weakest in legal protection of investors (La Porta et al., 1998; page 1).
3. "Third, German civil law and British common-law countries have significantly better-developed financial intermediaries and markets and better property right protection than French civil-law countries, which is fully consistent with the adaptability channel" (Beck et al., 2003; p.673).
4. Agbor (2011) used trade and education indictors to verify why colonial origin matter in explaining cross-country differences in economic performance in sub-Saharan Africa. He showed that English speaking countries perform better than their French speaking counterparts, while countries with Portuguese legal origin fall between the two.
5. The instruments must be correlated with the endogenous explanatory variables, conditional on the other covariates in the first-stage regression.
6. We have just three instruments (dummies of legal origin). In order to test for OIR, the number of instruments must be higher than the number of endogenous regressors by at least one degree of freedom. OIR test is not possible in either exact identification (instruments=endogenous regressors) or under-identification (instruments <endogenous regressors).

References

Agbor, J. A. (2011) "How Does Colonial Origin Matter for Economic Performance in Sub-Saharan Africa", World Institute for Development Economics Research, *Working Paper*, No. 2011/27.

Allen, F., Qian, J. and Qian, M. (2005) "Law, Finance and Economic Growth in China", *Journal of Financial Economics*, 77: 57-116.

Asongu, S. A. (2013a) "Fighting Consumer Price Inflation in Africa: What Do Dynamics in Money, Credit, Efficiency and Size Tell us?", *Journal of Financial Economic Policy*, 5(1): 39-60.

Asongu, S. A. (2014a) "African Financial Development Dynamics: Big Time Convergence", *African Journal of Economic and Management Studies*, 5(2):160-192.

Asongu, S. A. (2014b) "Are Proposed African Monetary Unions Optimal Currency Areas? Real, Monetary and Fiscal Policy Convergence Analysis", *African Journal of Economic and Management Studies*, 5(1): 9-29.

Asongu, S. A., (2014c) "Financial Development Dynamic Thresholds of Financial Globalization: Evidence from Africa", *Journal of Economic Studies*, 41(2): 166-195.

Asongu, S. A. (2013d) "Real and Monetary Policy Convergence: EMU Crisis to the CFA zone", *Journal of Financial Economic Policy*, 5(1): 20-38.

Asongu, S. A. (2011) "Why do French Civil-Law Countries Have Higher Levels of Financial Efficiency?", *Journal of Advanced Research in Law and Economics,* 2(2): 94-108.

Assane, D. and Malamud, B., (2010), "Financial Development and Growth in Anglophone and Francophone Sub-Saharan Africa: Does Colonial Legacy Matter?", University of Nevada-Las Vegas.

Beck, T., Demirgüç-Kunt, A. and Levine, R. (2003) "Law and Finance: Why Does Legal Origin Matter?", *Journal of Comparative Economics*, 31: 653-675.

Beck, T. and Levine, R. (2002) "Industry Growth and Capital Allocation: Does Having a Market or Bank-based System Matter?", *Journal of Financial Economics,* 64: 147–180.

Berkowitz, D., Pistor, K. and Richard, J. (2002) "Economic Development, Legality and The Transplant Effect", *European Economic Review*, 47(1): 165-195.

Demirguc-Kunt, A., Beck, T. and Levine, R. (1999) "A New Database on Financial Development and Structure", *International Monetary Fund*, WP *2146*.

Demirguc-Kunt, A. and Maksimovic, V. (1998) "Law, Finance, and Firm Growth", *Journal of Finance*, 53: 2107–2137.

Djankov, S., La Porta, R., Lopez-de-Silanes, F. and Shleifer, A. (2003) "Courts", *Quaterly Journal of Economics*, 118: 453-517.

Hassan, K., Sanchez, B. and Yu, J. (2011) "Financial Development and Economic Growth: New Evidence from Panel Data", *The Quarterly Review of Economics and Finance*, 51: 88-104.

Jayaratne, J. and Strahan, P. (1996) "The Finance-growth Nexus: Evidence from Bank Branch Deregulation", *Quarterly Journal of Economics*, 111: 639–670.

King, R. and Levine, R. (1993) "Finance and Growth: Schumpeter Might be Right", *Quarterly Journal of Economics*, 108: 717-738.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., and Vishny, R. W. (1998) "Law and finance", *Journal of Political Economy*, 106(6): 1113-1155.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A. and Vishny, R. W. (1999) "The Quality of Government", *Journal of Law, Economics and Organization*, 15: 222-279.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A. and Vishny, R. W. (2000) "Investor Protection and Corporate Governance", *Journal of Financial Economics*, 58: 141-186.

Levine, R. and King, R. G. (1993) "Finance and Growth: Schumpeter Might be Right", *The Quarterly Journal of Economics*, 108: 717-737.

Levine, R. and Zervos, S. (1998) "Stock Market, Banks and Economic Growth", *American Economic Review*, 88: 537-558.

McKinnon, R. (1973) Money and Capital in Economic Development. *Brookings Institution Press*, Washington DC.

Mundell, R. (1972) African Trade, Politics and Money, in Tremblay, R., ed., *Africa and Monetary Integration*, Les Editions HRW, Montreal: 11-67.

Rajan, R. and Zingales, L. (1998) "Financial Dependence and Growth", *American Economic Review*, 88: 559–586.

Rajan, R. G. and Zingales, L. (2003) "The Great Reversals: The Politics of Financial Development in the Twentieth Century", *Journal of Financial Economics*, 69: 5–50.

Appendices

Appendix 1: Presentation of legal origin and countries

Legal origin	Countries
English	Gambia, Ghana, Kenya, Lesotho, Malawi, Mauritius, Seychelles, Swaziland, Tanzania, Uganda, Zambia
French	Burkina Faso, Cameroon, C.A.R, Chad, Congo Rep., Côte d'Ivoire, Gabon, Madagascar, Mali, Niger, Senegal, Togo
Portuguese	Guinée-Bissau, Cape Verde, Mozambique

Appendix 2: Summary statistics

		Mean	S.D	Min.	Max.	C.V	Skew.	Kurt.	W.S.D	B.S.D	Obser.
Financial Depth	M2	0.280	0.191	0.004	1.279	0.682	2.196	5.279	0.101	0.162	588
	Fdgdp	0.211	0.183	0.013	1.052	0.869	2.172	4.814	0.096	0.157	586
Financial Efficiency	Bcbd	0.785	0.398	0.091	2.879	0.508	1.253	2.467	0.306	0.267	617
	Fcfd	0.787	0.378	0.139	2.775	0.480	1.262	2.534	0.278	0.267	586
Fin. Size	Dbacba	0.689	0.224	0.045	1.466	0.326	-0.65	0.099	0.159	0.168	611
Financial Activity	Pcrb	0.140	0.113	0.011	0.723	0.808	2.301	7.250	0.067	0.092	586
	Pcrbof	0.145	0.116	0.011	0.723	0.795	2.114	6.087	0.068	0.094	586
Colonial Origin	Englsih	0.423	0.494	0.000	1.000	1.168	0.311	-1.90	0.000	0.503	624
	French	0.461	0.498	0.000	1.000	1.081	0.154	-1.97	0.000	0.508	624
	Portu-guese	0.115	0.319	0.000	1.000	2.771	2.407	3.797	0.000	0.325	624
Growth	GDPg	3.639	4.547	-28.1	33.62	1.249	-0.62	8.165	4.466	1.233	621
	GDPpcg	1.061	4.505	-29.6	29.06	4.243	-0.61	7.097	4.369	1.410	621
	Inflation	11.35	23.03	-100	200	2.028	3.549	27.62	20.84	10.97	615
Control Variables	Trade	78.50	40.71	14.55	255	0.518	1.154	1.088	26.07	31.92	585
	Gov.	14.54	5.667	2.650	38.75	0.389	1.072	1.400	4.386	3.753	585
	Pop.	2.588	0.867	-1.07	6.238	0.335	-0.47	1.734	0.723	0.508	598

M2: Broad money supply. Fdgdp: Financial deposit on GDP . Bcbd: Bank credit on bank deposits. Fcfd: Financial credit on financial deposits. Dbacba: deposit bank assets/(deposit bank assets + central bank assets). Pcrb: Private domestic credit on GDP. Prcbof: Private credit from domestic banks and other financial institutions on GDP. English: English legal origin dummy. French: French legal origin dummy. Portuguese: Portuguese legal origin dummy. GDPg: GDP growth rate. GDPpcg: GDP per capita growth rate. Gov: Government final expenditure. Pop: Population growth rate. Obser: Observations.

Appendix 3: Correlation matrix

Fin. Depth		Fin. Efficiency		F. Size	Financial Activity		Legal origins			Growth & Welfare		Control variables				
M2	Fdgdp	Bcbd	Fcfd	Dbacba	Pcrb	Pcrbof	Eng.	Frch.	Por.	GDPg	GDPpcg	Infl.	Trade	Gov.	Pop.	
1.000	0.965	-0.235	-0.239	0.332	0.723	0.763	0.291	-0.375	0.138	0.005	0.097	-0.155	0.501	0.340	-0.493	M2
	1.000	-0.288	-0.294	0.419	0.758	0.799	0.372	-0.414	0.074	0.042	0.136	-0.106	0.538	0.361	-0.510	Fdgdp
		1.000	0.961	0.089	0.210	0.171	-0.514	0.547	-0.060	-0.228	-0.254	-0.236	-0.310	-0.157	0.181	Bcbd
			1.000	0.066	0.196	0.175	-0.512	0.554	-0.077	-0.198	-0.233	-0.219	-0.361	-0.182	0.219	Fcfd
				1.000	0.522	0.515	0.036	0.022	-0.092	0.061	0.095	-0.306	0.329	0.188	-0.201	Dbacba
					1.000	0.984	0.071	-0.085	0.023	-0.041	0.021	-0.186	0.269	0.129	-0.314	Pcrb
						1.000	0.128	-0.130	0.005	-0.039	0.022	-0.177	0.283	0.167	-0.317	Pcrbof
							1.000	-0.792	-0.309	0.122	0.144	0.251	0.385	0.338	-0.146	Eng.
								1.000	-0.334	-0.171	-0.210	-0.294	-0.330	-0.260	0.257	Frch.
									1.000	0.078	0.105	0.070	-0.095	-0.115	-0.174	Por.
										1.000	0.981	0.036	0.020	-0.062	0.014	GDPg
											1.000	0.007	0.112	-0.013	-0.169	GDPpcg
												1.000	-0.078	-0.093	0.138	Infl.
													1.000	0.411	-0.489	Trade
														1.000	-0.266	Gov.
															1.000	Pop.

M2: Broad money supply. Fdgdp: Financial deposit on GDP . Bcbd: Bank credit on bank deposits. Fcfd: Financial credit on financial deposits. Dbacba: deposit bank assets/ (deposit bank assets + central bank assets). Pcrb: Private domestic credit on GDP. Prcbof: Private credit from domestic banks and other financial institutions on GDP. Eng: English legal origin dummy. Frch: French legal origin dummy. Por: Portuguese legal origin dummy. GDPg: GDP growth rate. GDPpcg: GDP per capita growth rate. Infl:Inflation. Gov: Government final expenditure. Pop: Population growth rate.