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Law and Investment in Africa

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Abstract

Contrary to mainstream consensus on the dominance of English common law countries in investment prospects, this paper sets a new tone in the legal origins debate by providing empirical validity on the dominance of French civil-law countries in private investment. The assessment is based on 38 African countries for the period 1996-2007. The law mechanisms of regulation quality and rule of law are used to investigate how legal origins (French, English, French sub-Saharan, Portuguese and North African) have influenced a plethora of investment dynamics (domestic, foreign, private and public). The dominance of French civil law countries in prospects for private investments could be traceable to their relatively low and stable inflation rates from common monetary policies.

JEL Classification: E22; G20; K20; K40; P50

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1. Introduction

The legal origins debate has been largely focused on the law-finance (growth) nexus. This territory has been widely explored since the pioneering work of La Porta et al. (1998ab). Over the past decade, investment in African countries has substantially dropped in comparison to the 1970s. Given the close connection between investment and economic growth (Barro, 1991; Ben-David, 1998) and the substantial efforts undertaken by these developing countries to attract investment, the continent is lagging behind in comparison to Asia and Latin America. Many determinants of investment have been assessed in the continent.

Corruption (Ndikumana & Baliamoune-Lutz, 2008) has been found to have negative and positive effects on private and public investments respectively. A plethora of financial development indicators have also been found to positively impact domestic investment (private and total investments) in Africa (Ndikumana, 2000). Factors such as political and macro economic instability, low growth, weak infrastructure, poor governance, inhospitable regulatory environments and ill-conceived investment promotion strategies have been identified as responsible for poor Foreign Direct Investment (Dupasquier & Osakwe, 2005). Sustained efforts to promote political and macroeconomic stability and implement essential structural reforms have been the key elements contributing to the success of certain African countries in attracting high levels of Foreign Direct Investment (Basu and Srinivasan, 2002). In spite of this interesting literature, as far as we have reviewed, a study dedicated to assessing how legal origin affects investment via channels of law remains an important missing link.

This paper aims to bridge this scholarly gap. Assessing the missing link is motivated by recently documented evidence on the questionable character of the dominance of English common-law countries in the legal origins debate (Asongu, 2011abc). Thus in this paper, we

explore the effects of law on investment dynamics in the Africa. We empirically examine if regulatory-quality and the rule of law differ across 38 countries in the continent. Accordingly, we assess how law channels are exogenous to aggregate investment dynamics and whether legal origins influence investment beyond the mechanism of law channels. Deviating from the French, English, Scandinavian and German legal origins expressed in pioneering literature (La Porta et al., 1988b; Beck et al., 2003), we club legal origins in Africa into five categories, namely: French, English, French sub-Saharan, Portuguese and North Africa. This starting point is the implicit recognition of substantial differences in these legal families that stem from English common-law and French civil-law traditions (Asongu, 2011b). While he assumed that the basic origin of laws is clear, he has nonetheless postulated that consistent with the amendment of laws over time (La Porta et al., 1998b), the African continent is no exception[2].

This paper has a fourfold contribution to existing literature. Firstly, it assesses whether there are exceptions to the English legal origin dominance in prospects for investment. Secondly, it provides some answers to the puzzle of why some countries reflect relatively low levels of foreign and private investment despite substantial efforts to improve them. Thirdly, it investigates whether beside the law channel; African countries have other mechanisms through which legal origins are exogenous to investment. Fourthly, the use of recent data provides findings with more updated policy implications[3].

The remainder of the paper is organized in the following manner. We complete the introductory section with a literature review on the legal origin theory before outlining the scope and positioning of the present study. Section 2 provides some perspectives on law channels and

[2] For instance Ecuador, a French civil-law country revised its company law in 1977 to incorporate some common-law rules; Europe's Italy is a French civil-law country with some German influence; some Japanese laws were Americanized after World War II, Thailand's laws were based on common-law but have substantially been influenced by French civil-law.

[3] Accordingly, the paper uses data collected after pioneering works on the law-finance nexus to assess hypotheses resulting there-from in the context of Africa.

investment theory. Section 3 describes data sources and outlines the methodology. Cross-country regressions and corresponding discussion are reported in Section 4. We conclude with Section 5.

1.1 The Legal Origin Theory

The Legal Origin Theory upon which this work is based traces the different strategies of common and civil laws to different ideas and strategies about law and its purpose that England and France developed centuries ago. These broad strategies and ideas were fitted into specific legal rules, but also into the organization of the legal system as well as the human beliefs and capital of its participants. With acquisition of new territory and colonization, human capital, legal ideologies and rules were transplanted as well. Despite much legal evolution and amendment of law over time (La Porta et al., 1998b), the fundamental strategies and assumptions of each legal system survived and have continued to exert substantial influence on growth and development. This theory may be summarized in one sentence from Zweigert & Kötz (1998): "*the style of a legal system maybe marked by an ideology, that is, a religious or political conception of how economic and social life should be organized*" (p.72). This study seeks to assess how the styles of different legal systems have survived over the years and continue to exert substantial influence on aggregate investment factors through law channels in the African continent. The new approach of classifying legal origins in terms of English, French, French sub-Saharan, Portuguese and North African countries provides an exhaustive and thorough insight into an African view of the legal origin debate. For clarity and organization, the literature will be classified in two main strands: why legal origin matter in economic performance and the scope of the law-finance nexus.

1.2 Why does legal origin matter in economic performance?

For clarity purposes the literature on why legal origin matter in economic performance could be classified in three main categories.

In the first strand, several papers consider ownership of particular economic activities and government regulation. Djankov et al. (2002) observe the number of steps an entrepreneur must complete in order to begin operating a business legally. A number for instance that in 1999 varied from two in Australia and Canada to twenty-one in the Dominican Republic. They investigate the impact of such entry regulation on corruption and the size of the unofficial economy. Djankov et al. (2003a) assess government ownership of the media which remains extensive around the world, especially the television. Botero et al. (2004) construct indices of labor market regulation and investigate their impact on labor force participation rates and unemployment. Mulligan & Shleifer (2005a, 2005b) assess one of the ultimate forms of government intervention in private military conscription.

The second strand of papers assess the effects of legal origins on the features of the judiciary and other government organs on the one hand, and on the other hand the effects of those (features of the judiciary) on the security of property rights and contract enforcement. Djankov et al. (2003b) investigate the formalism of judicial procedures in various countries and its effects on the time it takes to evict a nonpaying tenant or to collect a bounced check. This factor can be given a wider interpretation as the efficiency of contracts enforcement by courts and indeed turns out to be significantly correlated with the efficiency of the debt collection mechanism according to Djankov et al. (2006). La Porta et al. (2004) adopt a very different procedure and gather data from national constitutions on judicial independence and the acceptance of appellate court rulings as a source of law. They assess whether judicial

independence contributes to the security of property rights and the quality of contract enforcement.

In the third strand, several studies in the aftermath of La Porta et al. (1997, 1998a) examine the effects of legal origins on investor protection and the impact of investor protection on financial development. Some literature in this strand has focused on stock markets. The La Porta et al. (1998a) appreciation of anti-director rights has been replaced by a measure of shareholder protection through securities laws (La Porta et al., 2006) and by another indicator of shareholder protection from self-dealing by corporate insiders via corporate law (Djankov et al., 2008). As endogenous variables, these studies use such proxies as dividend payouts (La Porta et al., 2000a), the ratio of stock market capitalization to GDP, the voting premium, the pace of public offering activity (Dyck and Zingales, 2004), Tobin's Q (La Porta et al., 2002) and ownership dispersion (La Porta et al., 1999a). Forecast for each of these variables result from standard agency models of corporate governance in which investor protection determines external finance (Shleifer & Wolfenzon, 2002). Another branch of the literature in this category looks at creditor rights. An example is the La Porta et al. (1997, 1998a) measure from bankruptcy law that has been updated by Djankov et al. (2007) who have also investigated several subjective assessments of the quality of private debt markets. La Porta et al. (2002) focus on the State's involvement in financial markets by investigating government ownership of banks. Djankov et al. (2006) use a different approach to creditor protection by looking at the actual efficiency of debt enforcement as measured by creditor recovery rates in a hypothetical case of a firm that is insolvent. These latter studies assess the common criticism that it is law-enforcement rather than rules of books, which count in investor protection by involving legal rules and features of efficiency measure.

The above strands throw light into why legal origins play a role in financial development and growth. In order to come to terms with the spirit motivating the positioning of this paper, it is worthwhile examining the current scope of the law-finance (growth) nexus.

1.3 The scope of the law-finance nexus

The motivation and positioning of the current study draw from the literature on the law-finance nexus, classified below in four strands.

The first strand embodies a growing body of work which suggests that cross-country variances in legal origin explain cross-country differences in financial development. La Porta et al. (1997, 1998ab) pioneered this strand and ever since, many authors have been consistent with the position that English common-law countries have better prospects for financial development than their French civil-law counterparts. They postulate that in comparison to countries with French civil-law origin, countries with English common-law legacies provide for stronger legal protection to creditors and shareholders (La Porta et al., 1998ab, 2000ab). The advantage common-law countries have over those with civil-law has been extended to other aspects of government and management: better institutions with less corrupt governments (La Porta et al., 1999b), more informative accounting standards (La Porta et al., 1998b) and, more efficient courts (Djankov et al., 2003b). Whereas this strand has been largely focused on understanding "if" legal-origins count in financial development, the concern of "why" legal origins matter as highlighted in Section 2.1 constitute the second strand.

Among studies identified in this second strand, to avoid monotony we shall lay emphasis on one very important contribution to the literature not highlighted in Section 2.1. Beck et al. (2003) illuminate the issue of "why" legal origin matter in financial development by empirically investigating two channel-oriented theories. The political channel examines how legal traditions

differ in the priority they attribute to the rights of individual investors vis-à-vis the State. It follows that, championing investors' rights should favor better conditions for financial development. The adaptability channel posits that legal traditions vary in their capacity to adapt to changing business conditions. Thus, countries in which legal systems provide for adjustments with regard to varying and evolving circumstances should naturally be rewarded with higher levels of financial development. In a nutshell, this strand sheds some light on the "why" puzzle by asserting that legal origins matter in financial development because traditionally legal origins differ in their ability to adjust and adapt efficiently to changing and evolving economic circumstances.

In the third strand, we find literature underlining the law-finance (growth) nexus which is primarily based on the positive finance-led-growth nexus (McKinnon, 1973). This thesis is shared at country level (King & Levine, 1993; Levine & Zervos, 1998; Allen et al., 2005), as well as at industry and firm levels (Jayaratne & Strahan, 1996; Rajan & Zingales, 1998). Therefore we find significant evidence of the link among law, finance and economic growth at firm, industry and country levels (Demirguc-Kunt & Maksimovic, 1998; Beck & Levine, 2002).

The fourth strand which is focused on African countries is pioneered by the Mundell (1972) conjecture, which theorized that Anglophone countries shaped by British activism and openness to experiment would naturally be rewarded with higher levels of financial development than their French counterparts shaped by Francophone reliance on monetary stability and automaticity[4]. Very recent findings have either wholly (Agbor, 2011) or partially (Asongu, 2011a) confirmed the post-colonial edge of English common-law over French civil-law legal

[4] "*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, pp. 42-43).

systems in growth and finance prospects respectively[5]. From a historical view-point, the division of sub-Saharan Africa into British and French spheres in the 19th century resulted in the implementation of different colonial policies[6]. An important finding in Asongu (2011a)[7] has debunked the dominance English common-law countries in prospects of financial development. As an extension, Asongu (2011c)[8] has used an "inflation-uncertainty" theory to boost theoretical validity and empirical justification as to why French civil-law countries dominate in financial allocation efficiency. Some emphasis on this debate has also been tilted toward human development, with Asongu (2011d) assessing the link among law, economic and human developments.

In light of the above, as far as we have reviewed, the influence of colonial legacies on financial development has been greatly covered (La Porta et al., 1998b, 1999b, 2000b; Djankov,

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[5] While Agbor (2011) examines channels via which legal-origin affects economic performance, Asongu (2011a) proposes four theories in assessing why legal-origin matter in growth and welfare. Both studies are focused on the sub-Saharan part of Africa.

[6] The British and French implemented two very distinct colonial policies. Whereas the French imposed a highly centralized bureaucratic system that clearly underlined empire-building, the British administered decentralized, flexible and pragmatic policies. Economic prospects dominated British colonial activities who sought to transform their colonies into commercially viable trading partners through the indirect-rule: producing raw material and consuming British manufactures. The French on the other hand propagated imperial ambitions through the policy of assimilation.

[7] "*This paper proposes and empirically validates four theories of why legal origin influences growth and welfare through finance. 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. (1998b) and Beck et al. (2003) hypotheses that English common-law countries tend to have better developed financial intermediaries than French civil-law countries. While countries with English legal tradition have legal systems that improve financial depth, activity and size, countries with French legal origin overwhelmingly dominate in financial intermediary allocation efficiency. Countries with Portuguese legal origin fall in-between*" Asongu (2011a, p.1).

[8] "*The dominance of English common-law countries in prospects for financial development in the legal-origins debate has been debunked by recent findings. Using exchange rate regimes and economic/monetary integration oriented hypotheses, this paper proposes an "inflation uncertainty theory" in providing theoretical justification and empirical validity as to why French civil-law countries have higher levels of financial allocation efficiency. Inflation uncertainty, typical of floating exchange rate regimes accounts for the allocation inefficiency of financial intermediary institutions in English common-law countries. As a policy implication, results support the benefits of fixed exchange rate regimes in financial intermediary allocation efficiency*" (Asongu, 2011c, p.1).

2003b; Beck et al., 2003). However the imperative of investment to developing countries (with regard to the African continent) remains a missing component in the legal origins debate. A reason for this missing link could be traced to scanty statistics on law measures in the African continent. Thus, the added appeal of this paper is its use of novel data collected after pioneering works on the law-finance (growth) nexus to assess hypotheses resulting there-from. A reassessment of these hypotheses within this specific context could set new paradigms in this legal origins debate. Investment undoubtedly remains a critical determinant of growth and development in the continent. The concern addressed in this paper is the importance of legal origins in explaining cross-country differences in law factors that are exogenous to aggregate investment dynamics. In plainer terms this study seeks to explore how legal origins affect domestic, foreign, private and public investments through law channels.

2. Law channels and investment theory

2.1 Regulatory quality

Consistent with the World Bank and recent African literature (Asongu, 2011b), this paper postulates that in the regulatory-quality channel, a legal system that allows for independent bodies that set-up rules, oversee them and sanction those who fail to respect them is more likely to create favorable conditions for investment. This hypothesis is premised on the fact that the business of government is not the government of business and thus, the power the government exerts on business activities is largely limited by the presence of independent bodies that check the organs of power. Traditionally, most French civil-law countries are characterized by little decentralization, absence of federations, no senates at the parliamentary level, appointment of judges and governors by the central government…etc; which greatly inhibits the powers of regulatory organs. Conversely, regulatory organs in English common-law countries are not

appointed by government and thus not object of allegiance to political powers that be. This independence provides some guarantee for greater regulatory quality. In accordance with the law-investment theory (La Porta et al., 1998b; Beck et al., 2003), Anglophone countries should benefit more from foreign, domestic and private investments. The paper supposes that public investment depends on factors beyond legal origins. We assume public investment depends on the political ideology of powers that be; who could be socialists, capitalists, technocrats, autocrats, left-wingers, right-wingers, far left-wingers, far right-wingers…etc.

2.2 Rule of law

Consistent with Asongu (2011b), the rule of law channel holds that legal traditions differ in their emphasis on law vis-à-vis the rights of the State and those of private property. Whereas countries with civil-law origin provide for legal systems that tend to emphasize the rights of the State at the expense of those of private property, common-law traditions do the contrary. This provides favorable conditions for investments especially private investment. As emphasized by Beck et al. (2003), a powerful State would interfere in financial markets and create adverse conditions for financial development which is exogenous to aggregate investment dynamics. In substance, this paper supports La Porta et al. (1998b) in the position that French civil-law legacies will nurse legal systems that have negative effects on some investment dynamics.

3. Data and Methodology

3.1 Data

We examine a sample of 38 African countries with French, British and Portuguese legal origins (see Appendix 1). The data is obtained from the African Development Indicators (ADI) of the World Bank. The sampled periodicity of 1996-2007 is due to constraints in the availability

of law indicators which only date from 1996. Consistent with 'legal amendments over time' highlighted above (La Porta et al., 1998b), we add the dummies of French sub-Sahara and North Africa to the regressions. As emphasized by Beck et al. (2003) from Berkowitz et al. (2002), it is important to distinguish between legal origin countries (United Kingdom, the U.S.A, France, Germany, Austria and Switzerland) which make-up the legal traditions from transplant countries which received the legal traditions. Consistent with Beck et al. (2003) this does not pose any issue because legal origins are fundamentally used as instruments. For the purpose of our paper, collected data is classified into the following categories.

3.1.1 Investment variables

Our investment variables consist of Gross Domestic Investment, Foreign Direct Investment, Gross Public Investment, Gross Private Investment and Gross Fixed Capital Formation. The very high correlation between domestic investment and fixed capital formation (see Appendix 2) compels us to drop the latter in preference for the former by virtue of its predominant usage in the investment literature.

3.1.2 Law variables

a) Regulatory Quality

In accordance with the World Bank, the quality of regulation captures perceptions on the ability of the government to formulate and implement sound regulations and policies that foster private sector development. The indicator is measured in percentile rank from 0 to 100. The concept is appreciated from both representative and non-representative sources.

Representative sources include: unfair competitive practices, price controls, discriminatory tariffs, discriminatory taxes, excessive protections, burden of administrative

regulations, ease of market entry for new firms, competition between businesses, distortional tax system, import barrier, cost of tariffs as obstacle to growth, degree of competition in local market, ease of starting a company, laxity of anti-monopoly policy, how ineffective environmental regulations hurt competitiveness, foreign investment nature, banking & Finance, administered prices and market prices, regulation arrangements, investment profiles, tax effectiveness, efficiency of the country's tax collection system, degree of clarity and transparency in rules, and assessment of the quality of business laws.

Non-representative sources include: trade policy, business regulatory environment, problematic nature of tax regulations for the growth in business, problematic nature of customs and trade regulations for growth in business, competition, price liberalization, conditions for rural financial services development, investment climate in rural businesses, access to agricultural input and produce markets, business regulatory environment, trade policy, how protectionism in the country affects fairness of competition, how price control affect pricing of products of industries, access to capital market (foreign and domestic), trade & foreign exchange system, competition policy on how ease of doing business is not a competitive advantage for the country, freedom of foreign investors to acquire control in domestic companies, how public sector contracts are sufficiently open to foreign bidders, non distortional nature of real personal taxes, non distortional nature of real corporate taxes, how banking regulation hinders competitiveness, how labor regulations hinder business activities, impairment of economic development by subsidies and ease to start business.

b) Rule of Law

This measure captures perceptions on the extent to which agents abide by and have confidence in the rules of society, and in particular the quality of property rights, the police, the courts, contract enforcement, as well as the likelihood of crime and violence. Like regulatory quality, it is also measured in percentile rank from 0 to 100 through a plethora of variables from representative and non-representative sources.

Representative sources include: violent crime, organized crime, fairness of the judicial process, enforcement of contracts, speediness of judicial process, confiscation/expropriation, intellectual property rights protection, private property protection, cost of common crimes on business, cost of organized crime on business, pervasiveness of money laundering through banks, effectiveness of police, independence of the judiciary from political influence of government (citizens or firms), efficiency of legal framework to challenge the legality of government action, rate of victimization of crime, strength of intellectual property protection, strength of financial assets protection, rate of illegal donations to parties, percentage of unofficial or unregistered firms, rate of tax evasion, confidence in the police force, confidence in the judicial system, independence of the judiciary, respect of law in relation between citizens and the administration, security of persons and goods, organized crime and activity, effectiveness of the fiscal system, effectiveness of the judicial system, security of property rights, security of contracts between private agents, government respect for contracts, settlement of economic disputes, justice in commercial matters, intellectual property protection, effectiveness of arrangements for the protection of intellectual property, security rights and property transactions, trafficking of peoples, judicial independence, level of impartiality of investors, and threat of crime to business.

Non-representative sources include: property rights and rule based on governance, family fear of crime, family mistrust in police, rate of family victimization by crime, trust in courts of law, trust in police, degree of social justice, trust in property rights and rule based governance, accountability of the judiciary, trust in the Supreme Court, degree of common practice of tax evasion, personal security and protection of private property, and enforcement of patent and copyright protection.

On a positive note, the two measures incorporate the four indicators considered by Beck et al. (2003) in theorizing the adaptability and political channels of law.

3.1.3 Instrumental variables

This paper examines traditional legal origin dummies for the French, English, and North African countries. As we must have earlier emphasized, sub-Saharan African (SSA) and North African dummies are added in a bid to improve our contribution to the literature. But for the high correlation (of about 85%) between French and Francophone sub-Saharan Africa, the dummies collectively represent quite distinct information or variability (see Appendix 2).

3.1.4 Control variables

In accordance with the literature (Levine & King, 1993; Hassan et al., 2011; Asongu, 2011be), we control for inflation, trade, population growth, GDP growth, GDP per capita growth as well as government's general final consumption expenditure in the law-investment regressions.

3.1.5 Choice of endogenous explaining variables for control at the second-stage of the TSLS

The choice of endogenous covariates for control at the second-stage of the TSLS estimation method is very crucial for goodness of fit in model specification. These covariates

must a priori be justified by an underlying theory in which they are endogenous (explainable) to (by) the instruments. Consistent with recent law-finance (growth) literature, the paper adopts inflation and trade in accordance with Asongu (2011c) and Agbor (2011) respectively[9]. Accordingly, the empirical assessments are backed by theoretical and historical postulations which hold that legal origin (instruments) are exogenous to the amount of trade because English common-law legacies were based on openness (and competition) through which colonies were fashioned to be trading societies (raw material producers and consumers of British manufacturers). In accordance with Mundell (1972), French civil-law origin countries prefer monetary stability (based on fixed exchange rates) over monetary experience. Hence, inflation-predictability which is typical of fixed exchange rate regimes is endogenous to the instruments (Asongu, 2011c).

3.1.6 Brief comparative analysis from Table 1

Table 1 presents comparative summary statistics for the English, French, French sub-Saharan, Portuguese and North African countries. A close look suggests that while English, Portuguese (but for Private investment) and North African (but for Foreign investment) countries are above average (data mean) in investment dynamics, French and French sub-Saharan countries fall well below continental averages. Sub-Saharan African countries in the mean have lower levels of investment than the overall French average. Regarding law variables, only English common-law and North African countries exceed the continental average; French countries surpass French SSAfrican and Protuguese countries, with the latter (but for the rule of

[9] Asongu (2011c) has debunked the dominance of English common law countries in prospects for financial development by providing empirical validity to a theoretical postulation that, stable inflation is a strong determinant in the edge African French civil-law countries have on financial allocation efficiency. Agbor (2011) has used trade openness to explain the edge English common-law countries have over French civil-law countries in economic performance.

law) having an edge over the latest countries (Protuguese). Countries with French civil-law have the lowest levels of inflation while English common law countries (with the exception of Portuguese countries) reflect the highest level of trade. Initial findings from these comparative summary statistics are in line with our expectations and consistent with law-finance (growth) literature (Asongu, 2011c; Agbor, 2011)[10].

3.1.7 Brief analysis of tests of difference in means from Table 2

The test for the difference in means between samples of the population shows whether differentiating various indicators by legal origins is really worthwhile. Therefore, statistically significant differences in the means among various instruments across variables indicate that classifying African countries by legal origins helps explain cross-country differences in the indicators under consideration.

In Table 2 (but for private investment in Panel A) there is significant evidence of differences in legal-origin means across variables. Accordingly, not all tests should be significant to justify the adoption of legal origin dummies as instruments (La Porta et al., 1998b, pp. 1131-1148).

3.2 Methodology

Consistent with the law-finance (growth) literature, we adopt the Two Stage Least Squares (TSLS) methodology as estimation technique with legal origin dummies as instrumental variables (Beck et al., 2003; Agbor, 2011; Asongu, 2011abcd). This estimation method has the

[10] With the exception of Portuguese countries, English countries reflect higher levels of trade because they traditionally have legal systems that provide for openness (in trade and capital) and competition: this is in line with Agbor (2011). Conversely, it is not unexpected that countries with French legal tradition should have the lowest levels of inflation. French colonial monetary legacy is focused on lowering levels of inflation because their former colonies have sacrificed financial independence and monetary experience for exchange stability (Mundell, 1972; Asongu 2011c).

particular advantage of addressing the concern of endogeneity. The Instrumental Variable (IV) estimator can therefore avoid the bias that Ordinary Least Squares (OLS) estimates suffer-from when covariates in the regression are correlated with the error term. More so, the object of this paper is to investigate how legal origins affect investment dynamics through law channels; which requires an IV estimation method. This proposed approach will entail the following steps:

-first and foremost, our preference for a TSLS over an OLS estimation method will be justified by a Hausman-test for endogeneity;

-secondly, we shall verify that instrumental variables are exogenous to the endogenous components of explaining variables (law channels), conditional on other covariates (control variables);

-lastly, the validity of the instruments will be tested with an overidentifying restrictions (OIR) test.

The above methodology will entail the following models.

First-stage regression:

$$Law_{it} = \gamma_0 + \gamma_1(British)_i + \gamma_2(French)_i + \gamma_3(Portuguese)_i + \gamma_4(NorthAfrica)_i + \alpha_i X_{it} + \upsilon_{it} \quad (1)$$

$$Law_{it} = \gamma_0 + \gamma_1(British)_i + \gamma_2(Frenchssa)_i + \gamma_3(Portuguese)_i + \gamma_4(NorthAfrica)_i + \alpha_i X_{it} + \upsilon_{it} \quad (2)$$

Second-stage regression:

$$Investment_{it} = \gamma_0 + \gamma_1(Qualityofregulation)_{it} + \gamma_2(Ruleoflaw)_{it} + \beta_i X_{it} + \mu_{it} \quad (3)$$

In all equations, X is a set of control variables. For the first/second and third equations, v and u, respectively denote the disturbance terms. The instruments are the five legal origin dummy variables. *Frenchssa*: dummy for Francophone SSA.

Table 1: Comparative Summary Statistics

Stats	Data	Investment Variables					Law Vbles		Control Variables						Instrumental Variables				
		GDI	FDI	PrivI	PubI	GFCF	R.Q	R.Law	Infl.	Trade	Popg	Gov.E	GDPg	GDPpc	Eng.	Frch.	Port.	Frssa.	Nafri.
	English	23.258	4.362	13.300	7.421	20.732	0.374	0.405	10.484	87.367	2.106	16.141	4.618	2.457	---	---	---	---	---
	French	19.783	2.183	12.838	6.365	19.359	0.306	0.277	3.317	64.400	2.595	12.799	4.121	1.524	---	---	---	---	---
	Portuguese	21.410	4.671	10.742	10.667	21.410	0.265	0.258	121.12	93.977	2.199	13.048	6.313	3.807	---	---	---	---	---
Mean	Frenchssa	18.301	2.049	12.111	6.158	18.300	0.281	0.243	3.370	62.678	2.852	12.133	4.042	1.190	---	---	---	---	---
	Northafrica	24.864	2.838	14.386	8.382	22.938	0.419	0.472	3.635	66.786	1.456	14.959	4.588	3.104	---	---	---	---	---
	Data	21.206	3.317	12.964	6.962	20.009	0.330	0.329	19.471	76.842	2.351	14.228	4.561	2.157	0.421	0.473	0.105	0.394	0.105
	English	10.419	5.893	7.654	4.226	9.453	0.185	0.217	15.292	46.021	0.880	5.776	3.787	3.584	---	---	---	---	---
	French	7.741	4.033	6.601	2.786	7.144	0.148	0.176	8.862	28.709	1.190	4.711	4.317	4.063	---	---	---	---	---
S.D	Portuguese	4.377	2.520	4.586	1.570	4.377	0.164	0.251	597.18	35.814	0.373	4.545	7.337	7.084	---	---	---	---	---
	Frenchssa	7.586	4.273	6.665	2.613	7.368	0.136	0.157	9.680	30.228	1.136	4.836	4.586	4.224	---	---	---	---	---
	Northafrica	4.582	2.523	5.732	3.476	3.307	0.135	0.143	3.066	19.193	0.335	2.573	2.343	2.350	---	---	---	---	---
	Data	8.958	5.085	7.012	3.561	8.166	0.170	0.212	201.52	39.588	1.044	5.416	4.561	4.346	0.494	0.499	0.307	0.489	0.307
	English	3.480	-5.781	0.272	0.090	3.480	0.044	0.029	-100.0	17.859	-1.075	5.416	-16.74	-17.14	---	---	---	---	---
	French	4.303	-8.629	-2.437	1.399	4.311	0.054	0.019	-100.0	21.574	0.591	2.650	-12.67	-15.15	---	---	---	---	---
Min.	Portuguese	18.336	1.639	5.976	8.550	18.336	0.044	0.014	-3.502	36.805	1.456	6.331	-28.10	-29.63	---	---	---	---	---
	Frenchssa	4.303	-8.629	-2.437	1.399	4.311	0.054	0.019	-100.0	21.574	0.707	2.650	-12.67	-15.15	---	---	---	---	---
	Northafrica	16.886	0.261	2.402	3.560	16.311	0.156	0.105	0.339	38.362	0.591	10.375	-2.227	-3.591	---	---	---	---	---
	Data	3.480	-8.629	-2.437	0.090	3.480	0.044	0.014	-100.0	17.859	-1.075	2.650	-28.10	-29.63	0.000	0.000	0.000	0.000	0.000
	English	63.757	33.277	43.917	25.008	63.547	0.771	0.810	132.82	224.66	4.233	35.138	27.462	22.618	---	---	---	---	---
	French	60.156	34.508	49.594	13.716	59.723	0.698	0.610	31.112	156.86	10.564	28.763	33.629	29.062	---	---	---	---	---
Max.	Portuguese	30.950	8.581	21.718	13.996	30.950	0.556	0.767	4145.1	179.00	3.030	21.288	20.613	17.114	---	---	---	---	---
	Frenchssa	60.156	34.508	49.594	13.716	59.723	0.698	0.519	31.112	156.86	10.564	28.763	33.629	29.062	---	---	---	---	---
	Northafrica	33.690	10.464	27.294	15.142	31.294	0.688	0.610	18.679	108.81	1.923	19.351	12.217	10.595	---	---	---	---	---
	Data	63.757	34.508	49.594	25.008	63.547	0.771	0.810	4145.1	224.66	10.564	35.138	33.629	29.062	1.000	1.000	1.000	1.000	1.000
	English	143	157	153	167	164	144	143	178	192	192	179	192	192	---	---	---	---	---
	French	208	159	198	203	208	162	162	203	212	216	210	216	216	---	---	---	---	---
Obs.	Portuguese	12	12	12	12	12	36	36	48	36	36	36	48	48	---	---	---	---	---
	Frenchssa	172	135	168	173	172	135	135	167	176	180	174	180	180	---	---	---	---	---
	Northafrica	48	36	42	42	48	36	36	48	48	48	48	48	48	---	---	---	---	---
	Data	363	328	363	382	384	342	341	429	440	444	425	456	456	456	456	456	456	456

S.D: Standard Deviation. Min: Minimum. Max: Maximum. Obs: Observations. GDI: Gross Domestic Investment. FDI: Foreign Direct Investment. PrivI: Private Investment. PubI: Public Investment. GFCF: Gross Fixed Capital Formation. R.Q: Regulation Quality. R.Law: Rule of Law. Infl: Inflation. Popg: Population growth. Gov.E: Government Expenditure. GDPg: GDP growth. GDPpc: GDP per capita growth. Eng: English legal origin. Frch: French legal origin. Port: Portuguese legal origin. Frssa: French sub-Saharan Africa. Nafri: North Africa.

Table 2: Test of difference in means

Panel A: Investment Dynamics

		Domestic and Foreign Investments										Private and Public Investments										
		Domestic Investment					Foreign Investment					Private Investment						Public Investment				
		Eng	Fr	Por	Frssa	Nafri	Eng	Fr	Por	Frssa	Nafri		Eng	Fr	Por	Frssa	Nafri	Eng	Fr	Por	Frssa	Nafri
Legal origin dummies (Instruments)	Eng	0	**3.58**	0.60	**4.87**	-1.03	0	**3.83**	-0.18	**3.78**	1.51	Eng	0	0.60	1.13	1.48	-0.85	0	**2.87**	**-2.64**	**3.32**	-1.36
	Fr		0	-0.72	**1.87**	**-4.36**		0	**-2.10**	0.27	-0.93	Fr		0	1.08	1.04	-1.41		0	**-5.29**	0.74	**-4.08**
	Por			0	1.40	**-2.35**			0	**2.08**	**2.17**	Por			0	0.69	**2.02**			0	**5.89**	**2.20**
	Frssa				0	**-5.70**				0	-1.05	Frssa				0	**-2.03**				0	**-4.61**
	Nafri					0					0	Nafri					0					0

Panel B: Law and Endogenous Explaining Control Variables

		Law										Endogenous Explaining Control Variables										
		Regulation Quality					Rule of Law					Inflation						Trade				
		Eng	Fr	Por	Frssa	Nafri	Eng	Fr	Por	Frssa	Nafri		Eng	Fr	Por	Frssa	Nafri	Eng	Fr	Por	Frssa	Nafri
Legal origin dummies (Instruments)	Eng	0	**3.54**	**3.22**	**4.73**	-1.38	0	**5.63**	**3.51**	**7.07**	**-1.75**	Eng	0	**5.67**	**-2.48**	**5.12**	**3.08**	0	**6.07**	-0.81	**6.02**	**3.02**
	Fr		0	1.47	1.48	**-4.19**		0	0.56	**1.77**	**-6.17**	Fr		0	**-2.82**	-0.05	-0.24		0	**-5.50**	0.57	-0.54
	Por			0	0.61	**4.36**			0	-0.43	**4.44**	Por			0	**2.56**	1.36			0	**5.47**	**4.47**
	Frssa				0	**-5.42**				0	**-7.88**	Frssa				0	-0.18				0	-0.89
	Nafri					0					0	Nafri					0					0

Eng: English. Fr: French. Por: Portuguese. Frssa: French Sub-Saharan Africa. Nafri: North Africa. Values in bold are t-statistics of at least 10% significance level. Significance of t-statistics is governed by both one and two tailed p-values.

4. Cross-country regressions

This section presents the results from cross-country regressions to assess the importance of legal origin in explaining cross-country variances in investment, the ability of legal origin to explain cross-country differences in the law channels and, the ability of the exogenous components of the law channels to account for cross-country differences in investment.

4.1 Legal origins and investment dynamics

In Table 3 below, we regress the investment indicators on the British, French, French sub-Saharan, Portuguese and North African legal origin dummies and also test for their joint significance. After controlling for trade, inflation, government expenditure, GDP growth, GDP per capita growth and population growth, the Fisher tests for instrument strength show that distinguishing countries by legal origin helps explain cross-country differences in investment dynamics. We find that the legal origin dummies enter jointly significantly in all regressions at the 1% level. It is also worth noting that but for population growth, all the control variables have the right signs and enter significantly in all the regressions.

The results also indicate that French legal origin countries, on average have substantially lower levels of foreign investment but overwhelmingly dominate in private investment. Portuguese countries dominate in domestic, foreign and public investments. But for foreign investment and slightly public investment, sub-Saharan French countries stand substantially below French civil-law countries' averages in domestic and private investments. While English common-law countries and Portuguese countries almost tie in domestic and foreign investments, North African countries joint them only in the tie of domestic investment and have significantly lower levels of foreign investment. The findings of the control variables are broadly consistent

with the relevance of trade, inflation, government expenditure, GDP growth and GDP per capita growth in the investment-growth literature.

Some of these initial findings are however not consistent with the law-finance literature (La Porta et al., 1998b; Beck et al., 2003) where-in, English common-law countries which champion private property rights vis-à-vis those of the State should inherently reflect higher levels of private investment than French civil-law countries that emphasize State-power. The overwhelming dominance of French and French sub-Saharan African countries (Models 3 and 3*) in prospects of private investment thus debunks this consensus in the law-finance literature. Possible reasons for this contradiction could be understood from the following. (1) The time series properties of our data. While La Porta, et al. (1998b) and Beck et al. (2003) do not provide time spans for their data because such was not necessary because their studies were based on facts for the most part, this paper is premised on data spanning from 1996 to 2007; most probably collected after the pioneering works of La Porta et al. (1998ab). (2) It is worth noting that the pioneering works had a global appeal for the most part while ours is restricted to the African continent. (3) With increasing globalization and economic integration, certain civil law traditions might be influenced by common-law traditions and vice-versa. This is the case with civil-law UEMOA[11] countries in ECOWAS[12] that is largely dominated by Nigeria and Ghana which are countries of common-law traditions. This explanation is consistent with the literature on the amendment of laws over time (La Porta et al., 1998b, p. 1119). (4) Another elucidation consistent with recent empirical findings could be borrowed from Asongu (2011c) where-in, French civil-law countries are characterized by low levels of inflation resulting from their fixed exchange rate regimes. The corresponding inflation-certainty existing there-in could be the

[11] Economic and Monetary Union of West African States.
[12] Economic Community of West African States.

source of their overwhelming dominance in private investments. This interpretation can be justified by the negative significant inflation coefficient in the private investment regression (Model 3).

Table 3: Investment and legal origin

		Domestic Investment		**Foreign Investment**		**Private Investment**		**Public Investment**	
		Model 1 GDI	**Model 1*** GDI	Model 2 FDI	**Model 2*** FDI	Model 3 Priv.I	**Model 3*** Priv.I	Model 4 Pub.I	**Model 4*** Pub.I
Legal origin dummies (Instruments)	English	**13.850*** (7.140)**	**6.052*** (4.144)**	**5.027*** (11.07)**	**5.358*** (8.174)**	**5.794*** (3.932)**	**3.474*** (3.059)**	**4.767*** (9.003)**	**4.465*** (8.325)**
	French	**11.983*** (6.829)**	---	**2.527*** (6.053)**	---	**7.031*** (5.090)**	---	**4.218*** (9.993)**	---
	Frchssa	---	**6.956*** (6.472)**	---	**3.221*** (3.564)**	---	**5.609*** (6.228)**		**4.293*** (9.812)**
	Portuguese	**13.229*** (4.923)**	**9.118*** (3.837)**	**5.667*** (4.099)**	**6.319*** (4.113)**	**4.649** (2.161)**	**4.229** (2.006)**	**8.493*** (8.087)**	**8.841*** (8.617)**
	Nafri	**4.826*** (3.802)**	**9.313*** (6.923)**	-0.256 (-0.303)	**1.728** (2.068)**	**2.102** (1.973)**	**4.683*** (3.719)**	**2.173*** (3.972)**	**4.660*** (7.624)**
Control Variables	Trade	**0.084*** (7.118)**	**0.088*** (8.085)**	---	---	**0.071*** (7.689)**	---	**0.022*** (5.024)**	
	Inflation	**-0.082** (-2.564)**	-0.029 (-0.908)	**-0.077*** (-3.840)**	**-0.069*** (-3.366)**	**-0.071*** (-2.759)**	---	---	
	Gov. Exp.	---	**0.420*** (5.598)**	---	---	---	**0.518*** (8.403)**	---	**0.145** (4.942)**
	GDPg	**0.556*** (5.278)**	---	---	---	**0.345*** (4.017)**	---	**0.094** (2.338)**	
	GDPpcg	---	**0.621*** (5.688)**	---	---	---	**0.331*** (3.638)**	---	**0.092** (2.099)**
	Popg	-0.205 (-0.467)	---	---	-0.304 (-1.101)	-0.102 (-0.290)	---	---	
F-test (for Instruments)		**21.829***	**373.97***	**7.062***	**27.480***	**16.084***	**219.66***	**13.502***	**285.06***
Adjusted R^2		0.301	0.898	0.074	0.346	0.238	0.783	0.140	0.817
Observations		338	338	302	328	338	363	382	382

GDPg: GDP growth. GDPpcg: GDP per capita growth. Popg: Population growth. Gov.Exp: Government Expenditure. Frchssa: French sub-Saharan Africa. Nafri: North Africa. GDI: Gross Domestic Investment. FDI: Foreign Direct Investment. Priv.I: Private Investment. Pub.I: Public Investment. *, **,***: significance at 10%, 5% and 1% respectively.

4.2 Legal origins and law channels

Table 4 assesses whether legal origin explains cross-country differences in the indicators which characterize the law channel. This is the first condition for the Instrumental Variable (IV) estimation technique which requires that the instruments (legal origins) explain law channels conditional on other covariates (control variables). This is expressed by Eqs (1) and (2) specified in Section 3.2. We regress the proxies for regulation quality and the rule of law on the legal origin dummy variables. Due to concerns related to over-parametization and multicolinearity, we

avoid using the French and French sub-Saharan dummies in the same regressions. We investigate whether the exogenous components of legal origins explain law indicators both in the presence and absence of control variables, such that we have eight regressions. We report the Fisher (F)-test of whether legal origin dummy variables taken together explain significantly cross-country variations in regulation quality and the rule of law. Clearly from the significance of estimated coefficients, the instruments are exogenous to cross-country variations in law indicators. Also, the significance of the *F*-test at the 1% level illustrates that legal origins taken together jointly significantly elucidate legal origins across countries. Variables that are controlled for are all significant with the right signs.

Table 4: Law and legal origin regressions

		Regulatory Quality				**Rule of Law**			
		Model 5	Model 5*	Model 5**	Model 5***	Model 6	Model 6*	Model 6**	Model 6***
Legal origin dummies (Instruments)	English	**0.367*** (26.71)**	**0.428*** (16.87)**	**0.353*** (24.42)**	**0.323*** (12.55)**	**0.393*** (23.88)**	**0.354*** (7.131)**	**0.381*** (22.66)**	**0.245*** (6.800)**
	French	**0.287*** (20.93)**	**0.373*** (12.52)**	---	---	**0.246*** (15.01)**	**0.230*** (4.697)**	---	---
	Frchssa	---	---	**0.281*** (18.99)**	**0.241*** (10.94)**	---		**0.243*** (14.14)**	**0.085*** (3.062)**
	Portuguese	**0.265*** (9.730)**	**0.387*** (10.34)**	**0.265*** (9.230)**	**0.258*** (6.424)**	**0.258*** (7.929)**	**0.286*** (5.124)**	**0.258*** (7.748)**	**0.295*** (6.078)**
	Nafri	**0.112*** (3.818)**	**0.067** (2.183)**	**0.331*** (11.45)**	**0.302*** (9.804)**	**0.189*** (5.388)**	**0.137*** (3.908)**	**0.376*** (11.23)**	**0.237*** (6.897)**
Control Variables	Trade	---	---	---	**0.0005** (2.213)**	---	---	---	**0.0009*** (3.579)**
	Inflation	---	---	---	**-0.000* (-1.709)**	---	---	---	**-0.002** (-2.575)**
	Gov. Exp	---	---	---	---	---	**0.007*** (3.720)**	---	**0.007*** (4.281)**
	GDPpcg	---	**0.003* (1.720)**	---	---	---	---	---	---
	Popg	---	**-0.033*** (-3.413)**	---	---	---	**-0.031*** (-2.654)**	---	---
F-test(for Instruments)		**11.378*** **	**8.757*** **	**313.91*** **	**204.86*** **	**22.230*** **	**21.630*** **	**243.60*** **	**210.30*** **
Adjusted R^2		0.083	0.104	0.786	0.798	0.157	0.246	0.740	0.835
Observations		342	333	342	309	341	316	341	289

Popg: Population growth. Gov.Exp: Government Expenditure. GDPpcg: GDP per capita growth. Frchssa: French sub-Saharan Africa. Nafri: North Africa. *, **,***: significance at 10%, 5% and 1% respectively.

The results also indicate that English common-law countries have the highest levels of regulatory quality and rule of law. Civil-law traditions that have shaped French, French sub-Saharan and most of North African countries have resulted in significantly lower levels of law.

In comparison with French countries, their French sub-Saharan African counterparts experience significantly lower levels of regulation quality and rule of law when control variables enter into the regressions. Thus the edge of the former over the latter is substantiated with control variables. North African countries compared to the French (French sub-Saharan) countries have lower (higher) levels of law. In relation to both the French and Francophone sub-Saharan countries, the Portuguese have a lower (higher) level of regulatory quality (rule of law) in the absence of control variables. Consistent with the law and growth theory, Table 4 broadly indicates that British common law countries have significantly greater levels of law indicators. This is in line with the law-finance literature (La Porta et al., 1998b; Beck et al., 2003).

4.3 Examination of law channels using an instrumental variable procedure

Table 5 assesses two main issues: (1) the concern of whether the exogenous components of law channels explain investment and; (2) whether legal origin explains investment dynamics through some other mechanisms beside the law channels. To make these assessments we use the TSLS regressions. Thus we integrate Eq. (3) into the first-stage regressions (first and second equations). While the first issue is addressed by the significance of estimated coefficients, the second is examined by the overidentifying restrictions (OIR) test whose null hypothesis is the position that, the instruments are not correlated with the error term of the equation of interest (Eq. (3)). Therefore, a rejection of the null hypothesis of the OIR test is a rejection of the position that legal origins explain investment only through the law channels. In the TSLS regressions we control for trade (Agbor, 2011) and inflation (Asongu, 2011c). Our choice of these variables has been elucidated in Section 3.1.5.

Panel A of Table 5 presents results for domestic and foreign investments. We begin by justifying our choice of a TSLS estimation method with a Hausman test for model specification.

The null hypothesis of this test is the position that estimated coefficients by OLS are efficient and consistent; implying they do not suffer from endogeneity. Where the Hausman test fails to reject the null hypothesis (absence of endogeneity) we do not proceed with the TSLS (Models 7** and 8***). In a case, we fail to report results because the coefficient of determination (adjusted R^2) is negative (Model 8**). We also report statistics of the weak instrument test of first-stage regressions in either Fisher (without control variables) or Cragg-Donald (with control variables) statistics depending on the nature of identification (difference between instruments and endogenous regressors). For domestic investment, the first issue is addressed by the significance of regulation quality in regressions with (Model 7) and without (Model 7*) a control variable. This also holds true for the rule of law in the presence of a control variable (Model 7***). The null hypothesis of the OIR is not rejected in all regressions (but for Model 7**), implying the instruments are valid and legal origins explain domestic investment through no other mechanisms than law channels. With regard to foreign investment, while our results are not relevant for the rule of law (Model 8** and 8***), they are consistent for the regression with regulation quality in the absence of a control variable (Model 8). The interpretations of results with respect to the two issues are same as for domestic investment (with the instruments both strong and valid).

In accordance with the explanations of Panel A, Panel B of Table 5 addresses the two issues with respect to private and public investments. While some models do not reject the null hypothesis of the Hausman test (9, 9**, 9*** and 10*) and therefore invalidate the IV procedure, Model 9* (Models 10, 10**, 10***) validates the second issue but not the first for private investment (validate the first issue but not the second for public investment). It follows that for private investment, the instruments are strong (F-test: 22.230) and valid (OIR-test: 2.901) but do

not significantly explain private investment through the rule of law channel. As regards public investment, the instruments explain private investment through some other mechanisms beyond the law channels. This result is in line with the hypothesis enunciated in Section 2.1.

Table 5: Unrestricted TSLS Investment regressions

Panel A: TSLS for Domestic and Foreign investments

		Domestic Investment				**Foreign Investment**			
		Model 7	Model 7*	Model 7**	Model 7***	Model 8	Model 8*	Model 8**	Model 8***
	Constant	3.123	4.152	n.a	**14.972*** **	-10.602	-2.063	n.s.a	n.a
		(0.790)	(1.173)		**(5.953)**	(-1.413)	(-1.088)		
Law Channels	Reg. Quality	**54.469*** **	**51.967*** **	---	---	**38.946***	1.244	---	---
		(4.675)	**(4.368)**			**(1.883)**	(0.219)		
	Rule of Law	---	---	n.a	**25.916*** **	---	---	n.s.a	n.a
					(3.738)				
	Trade	---	---	---	-0.030	---	**0.063*** **	---	n.a
Control					(-0.718)		**(2.753)**		
Variables	Inflation	---	-0.032	---	---	---	---	---	---
			(-0.160)						
Hausman test		**17.362*** **	**24.822*** **	0.793	**5.700***	**16.581*** **	**4.659***	n.s.a	3.238
OIR(Sargan) test		**2.901**	**2.918**	n.a	**0.881**	**0.248**	**3.371**	n.s.a	n.a
P-values		**[0.407]**	**[0.232]**	n.a	**[0.347]**	**[0.618]**	**[0.185]**	n.s.a	n.a
Weak I. Test(F-stats)		**9.504*** **	---	n.a	---	**5.518*** **	---	n.s.a	n.a
Gragg-Donald		---	3.544	n.a	8.455	---	4.191	n.s.a	n.a
Adjusted R^2		0.127	0.115	n.a	0.145	0.025	0.169	-0.001	n.a
F-stats		---	**13.220*** **	n.a	**9.715*** **	---	**5.905*** **	n.s.a	n.a
Observations		270	252		269	243	241		

Panel B: TSLS for Private and Public investments

		Private Investment				**Public Investment**			
		Model 9	Model 9*	Model 9**	Model 9***	Model 10	Model 10*	Model 10**	Model 10***
	Constant	n.a	**11.615*** **	n.a	n.a	**2.364**	n.a	**3.233** **	**6.348*** **
Law			**(8.057)**			**(1.531)**		**(2.118)**	**(5.260)**
Channels	Reg. Quality	n.a	---	n.a	---	**13.420*** **	---	**10.383***	---
						(2.996)		**(1.854)**	
	Rule of Law	---	4.279	---	n.a	---	n.a	---	**8.938*** **
			(1.038)						**(2.788)**
	Trade	---	---	---	n.a	---	---	---	-0.032
Control									(-1.493)
Variables	Inflation	---	---	n.a	---	---	---	0.023	---
								(0.259)	
Hausman test		0.034	**3.193***	2.787	2.787	**8.529*** **	0.760	**6.944** **	**5.838***
OIR(Sargan) test		n.a	**1.272**	n.a	n.a	8.665**	n.a	9.723***	11.11***
P-values		n.a	**[0.529]**	n.a	n.a	[0.013]	n.a	[0.001]	[0.000]
Weak I. Test(F-stats)		n.a	**22.230** **	n.a	n.a	**11.379*** **	n.a	**2.766** **	**6.348*** **
Adjusted R^2		n.a	0.107	n.a	n.a	0.014	n.a	0.006	0.005
F-stats		n.a	---	n.a	n.a	---	n.a	**4.848*** **	**4.090** **
Observations			267			284		266	283

*, **,***: 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. Cragg-Donald statistics for Weak Instrument test at first stage regression. OIR: overidentifying restrictions. Reg: Regulation.

4.4 Robustness test

Consistent with the literature (Beck et al., 2003; Asongu, 2011a), we check for the robustness of the results above with restricted TSLS investment regressions. Findings presented

in Table 6 broadly confirm our initial findings for domestic and foreign investments on the one hand, and on the other hand, validate the role legal origins play in explaining private and public investments through law channels.

Table 6: Restricted TSLS Investment regressions

Panel A: TSLS for Domestic and Foreign investments

		Domestic Investment				**Foreign Investment**			
		Model 7	Model 7*	Model 7**	Model 7***	Model 8	Model 8*	Model 8**	Model 8***
Control Variables	Reg. Quality	**63.436*** (32.19)**	---	**64.937*** (12.74)**	---	**9.648*** (9.888)**	---	**4.759* (1.661)**	---
	Rule of Law	---	**60.493*** (29.73)**	---	**28.478*** (3.653)**	---	**9.874*** (10.46)**	---	n.a
	Trade	---	---	---	**0.142*** (4.196)**	---	---	---	n.a
	Inflation	---	---	-0.097 (-0.431)	---	---	---	**0.216* (1.749)**	---
Hausman test		**198.31***	**183.89***	**186.53***	**82.420***	**64.358***	**30.361***	**72.113***	1.498
OIR(Sargan) test		**1.540**	26.80***	**2.291**	27.851***	**7.668**	**3.561**	**0.096**	n.a
P-values		**[0.672]**	[0.000]	**[0.318]**	[0.000]	**[0.104]**	**[0.168]**	**[0.755]**	n.a
Weak I. Test(F-stats)		**342.60***	**246.18***	---	---	**308.08***	**306.25***	---	n.a
Cragg Donald		---	---	5.034	7.815	---	---	4.861	n.a
Adjusted R^2		0.130	0.209	0.119	0.262	0.029	0.002	0.0002	n.a
Observations		270	269	252	269	243	242	224	

Panel B: TSLS for Private and Public investments

		Private Investment				**Public Investment**			
		Model 9	Model 9*	Model 9**	Model 9***	Model 10	Model 10*	Model 10**	Model 10***
Control Variables	Reg. Quality	**37.675*** (25.63)**	---	**28.652** (2.125)**	---	**20.205*** (26.16)**	---	**28.621*** (3.663)**	---
	Rule of Law	---	**36.24*** (24.81)**	---	7.353 (1.202)	---	**19.330*** (25.36)**	---	**17.910*** (8.465)**
	Trade	---	---	0.098 (1.492)	**0.130*** (4.817)**	---	---	-0.037 (-1.086)	---
	Inflation	---	---	**-0.653** (-2.494)**	---	---	---	---	0.045 (0.502)
Hausman test		**112.60***	**83.844***	**45.714***	**26.036***	**191.96***	**152.79***	**92.705***	**88.238***
OIR(Sargan) test		10.838**	37.361***	**4.523**	33.108***	7.951**	32.246***	**3.568**	38.616***
P-values		[0.012]	[0.000]	**[0.104]**	[0.000]	[0.047]	[0.000]	**[0.167]**	[0.000]
Weak I. Test(F-stats)		**358.24***	**259.14***	---	---	**358.24***	**259.14***	---	---
Cragg Donald		---	---	1.495	6.806	---	---	2.611	4.221
Adjusted R^2		0.047	0.111	0.102	0.169	0.017	0.062	0.001	0.052
Observations		268	267	250	267	284	283	284	265

*, **,***: 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. Cragg-Donald statistics for Weak Instrument test at first stage regression. OIR: overidentifying restrictions. Reg: Regulation.

In accordance with the explanatory framework outlined above, the robustness test assesses the two main issues: (1) whether the exogenous components of law indicators explain investment dynamics and; (2) if legal origins explain investment dynamics beyond the mechanism of law channels.

Rejection of the null hypothesis of the Hausman test in fifteen of the sixteen regressions justifies our TSLS estimation method. The first issue is resolved by the significance of estimated coefficients in most of the regressions. With regard the second concern, failure to reject the null hypothesis of the OIR test in at least one of the four regressions pertaining to each investment dynamic provides further evidence for the validity of the instruments. In plainer terms, the instruments do not always suffer from endogeneity and thus explain investment through no other channels than law mechanisms. The robustness test results run-counter to our earlier finding that legal origins explain public investment beyond law channels. Thus the role of autonomous investment in this inconsistency is an interesting future research direction.

5. Conclusion

In this paper we have analyzed how legal origins affect aggregate investment dynamics through law channels of regulation quality and the rule of law. The following four findings have been established. Firstly, contrary to mainstream consensus that English common-law countries will naturally benefit from higher levels of private investment because their legal systems provide an appealing atmosphere for private sector development (La Porta et al., 1998b, 1999b; Beck et al., 2003), French civil-law countries overwhelmingly dominate in aggregate private investment. Secondly, distinguishing African countries by legal origins helps explain cross-country differences in aggregate investment dynamics through law channels of regulation quality and the rule of law; with the effect of the former greater than that of the latter. Thirdly, we find partial support for the hypothesis that, legal origins explain public investment beyond law channels. Lastly, results broadly suggest the instruments are exogenous to investment dynamics through channels of law.

Appendices

Appendix 1: Countries selected for the study

Colonial legacy	Countries	Num.
English	Botswana, Egypt, Gambia, Ghana, Kenya, Lesotho, Malawi, Mauritius, Nigeria, Seychelles, Sierra Leone, South Africa, Sudan, Swaziland, Tanzania, Zambia.	16
French	Algeria, Benin, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Congo Republic, Côte d'Ivoire, Gabon, Madagascar, Mali, Morocco, Niger, Rwanda, Senegal, Togo, Tunisia.	18
Portuguese	Angola, Cape Verde, Guinea-Bissau, Mozambique.	4
French sub-Saharan Africa	Benin, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Congo Republic, Côte d'Ivoire, Gabon, Madagascar, Mali, Niger, Rwanda, Senegal, Togo.	15
North Africa	Algeria, Egypt, Morocco, Tunisia.	4

Num: Number of countries.

Appendix 2: Correlation Analysis

Investment Variables					Law Vbles		Control Variables						Instrumental Variables					
GDI	FDI	PrivI	PubI	GFCF	R.Q	R.Law	Infl.	Trade	Popg	Gov.E	GDPg	GDPpc	Eng.	Frch.	Port.	Frssa.	Nafri.	
1.000	0.524	0.813	0.514	0.934	0.361	0.457	-0.161	0.465	-0.216	0.377	0.190	0.261	0.184	-0.184	0.004	-0.308	0.159	GDI
	1.000	0.473	0.284	0.559	-0.170	0.054	-0.148	0.443	-0.172	0.319	0.047	0.098	0.197	-0.216	0.052	-0.208	-0.033	FDI
		1.000	0.092	0.880	0.216	0.333	-0.225	0.440	-0.143	0.270	0.125	0.172	0.041	-0.019	-0.058	-0.113	0.073	PrivI
			1.000	0.502	0.133	0.250	-0.000	0.241	-0.015	0.171	0.138	0.153	0.113	-0.178	0.187	-0.207	0.140	PubI
				1.000	0.239	0.404	-0.218	0.510	-0.158	0.330	0.160	0.215	0.076	-0.086	0.030	-0.188	0.135	GFCF
					1.000	0.794	-0.096	0.047	-0.274	0.189	0.011	0.076	0.218	-0.134	-0.131	-0.232	0.179	R.Q
						1.000	-0.095	0.233	-0.342	0.339	-0.005	0.074	0.304	-0.229	-0.115	-0.328	0.231	R.Law
							1.000	0.107	0.043	-0.155	0.081	0.074	-0.037	-0.076	0.179	-0.063	-0.027	Infl.
								1.000	-0.395	0.383	0.004	0.096	0.234	-0.303	0.129	-0.292	-0.089	Trade
									1.000	-0.333	0.221	-0.015	-0.205	0.227	-0.043	0.396	-0.299	Popg
										1.000	-0.024	0.060	0.301	-0.261	-0.066	-0.322	0.048	Gov.E
											1.000	0.972	0.010	-0.091	0.131	-0.092	0.002	GDPg
												1.000	0.058	-0.138	0.130	-0.179	0.074	GDPpc
													1.000	-0.809	-0.292	-0.688	-0.118	Eng.
														1.000	-0.325	0.851	0.189	Frch.
															1.000	-0.277	-0.117	Port.
																1.000	-0.277	Frssa.
																	1.000	Nafri.

GDI: Gross Domestic Investment. FDI: Foreign Direct Investment. PrivI: Private Investment. PubI: Public Investment. GFCF: Gross Fixed Capital Formation. R.Q: Regulation Quality. Infl: Inflation. Popg: Population growth. Gov.E: Government Expenditure. GDPg: GDP growth. GDPpcg :GDP per capita growth. Eng: English legal origin. Frch: French legal origin. Port: Portuguese legal origin. Frssa: French sub-Saharan Africa. Nafri: North Africa.

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