Economics Bulletin

Volume 38, Issue 2

Social order and financial development

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Abstract

This paper focuses on examining the impacts of social order on financial development in the context of political and institutional influence in developing and least developed countries for a period of 1985-2011. Empirical results suggest that social order affects the depth of the financial sector whereas political and institutional determinants influence the efficiency of financial institutions.

Citation: Mansokku Lee and Changkuk Jung and Taeyoung Lee, (2018) "Social order and financial development", *Economics Bulletin*, Volume 38, Issue 2, pages 901-907
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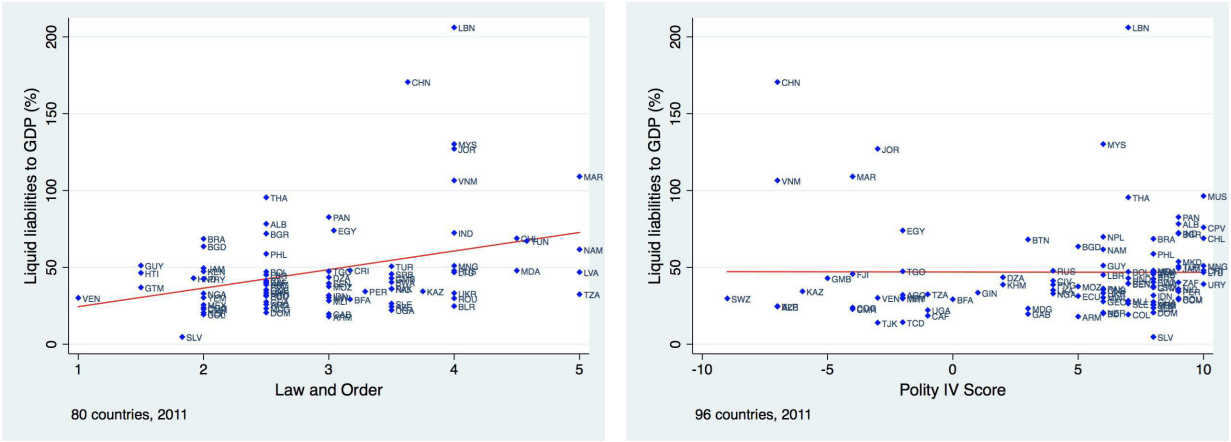
Submitted: April 12, 2018. **Published:** April 29, 2018.

1 Introduction

Economists have asserted that financial sector development is closely related to economic growth (see earlier contributors' works such as Goldsmith, 1969; McKinnon, 1973; Shaw, 1973). One of the possible arguments that supports such relationship is that financial development enables efficient resource allocation. This allows an adequate supply of liquidity and credits to the economy and consequently facilitates economic transactions. Since many economists regard financial sector development as an important determinant of economic growth, many studies have attempted to determine and explain the pre-conditions for financial development.

Recent studies have attempted to illuminate the impact of non-economic determinants on financial development, such as democracy, legal origins, and political systems and institutions. The law and finance theory argues that legal origin is a reason for differences in financial sector development across countries (La Porta et al., 1997; 1998). Some papers identify the importance of initial endowments and the role of institutions in explaining financial development (Acemoglu et al., 2001; Beck et al., 2003). Girma and Shortland (2007) and Huang (2010) emphasize the role of democracy, regime change, and political institutions. Cooray (2011) examines the effects of the quality and the size of government on financial industry. Yang (2011) studies the impact of democracy on stock market development and bank development. Bhattacharyya and Hodler (2014) demonstrate the contribution of given endowment to financial sector development with the effect of political institutions.

Financial transactions are based on mutual trust between agents. An increase in social disorder due to factors such as weak law-abiding awareness, negligence of duty, and corruption can constrain financial contracts. It can eventually hamper the growth of the financial sector. Thus, to assess financial development, the influence of law-abiding practice, norms for honoring contract, and transparency need to be incorporated into literature. However, little has been done in this direction. For this reason, this paper aims to identify stylized facts about the impact of the degree of social order as well as economic and socio-political determinants on financial development.



(a) Law and Order and Liquid Liabilities to GDP

(b) Democracy and Liquid Liabilities to GDP

Figure 1: Socio-political determinants and financial development

This paper focuses on examining the role of social order in financial development in the con-

text of political and institutional influences. Figure 1 shows the exemplary relationships between financial development and the degree of law and order, and between financial development and democracy. We use the ratio of liquid liabilities ($M3$) to GDP as a measure of financial deepening, which is one dimension of financial development. Figure 1a shows that this ratio is positively associated with the index measure of each country's law and order. Higher values represent stronger legal system and lower crime rates. In Figure 1b, we use Polity IV scores, and larger values indicate more democracy within the country. The level of democracy proxied by the Polity IV scores does not show any relationship with the measure of financial deepening.

We further examine such relationships by using a dynamic panel regression model with various control variables for a more precise empirical analysis. Empirical results show that social order is significantly associated with financial depth.

In addition, we examine the impact of those socio-political determinants on financial efficiency, another dimension of financial development. Empirical outcomes present that democracy and governing quality are significantly associated with the measures of financial efficiency.

2 Model, Data, and Estimation

Our empirical analysis involves estimating the following panel data model for financial development (FD) in country i and year t:

$$\begin{aligned} FD_{i,t} &= \alpha + \beta FD_{i,t-1} + S_{i,t}^{'}\gamma + P_{i,t}^{'}\delta \\ &\quad + L_{i,t}^{'}\zeta + E_{i,t}^{'}\theta + G_{i,t}^{'}\xi \\ &\quad + \phi_t + \eta_i + \upsilon_{i,t} \end{aligned}$$

Following the classification of the World Bank's Global Financial Development Database (GFDD), we test the two different measures of financial development, the depth and the efficiency of financial markets, subject to data availability. In addition to the lagged dependent variable, the model includes the following regression vectors: social order proxies (S), democracy and governance indicators (P), legal origins (L), economic control variables (E), and globalization measures (G).

For the proxies of social order, we include Law and Order, Investment Profile, and Corruption. Law and Order refers to the strength and impartiality of the legal system and the popular observance of the law. Investment Profile explains the risk to investment, other than political and economic risks, such as contract viability/expropriation, profits repatriation, and payment delays. Corruption may distort market-based resource allocation mechanisms. The larger the values of these variables, the stronger the legal system and the lower the crime rates; the less the risk to invest; the less corruption; respectively. The variables come from the International Country Risk Guide (ICRG) indicators that are widely used to construct political variables including the World Bank's WGI indicators.

We include Polity IV as a measure of democracy and other ICRG indicators as measures of governance. Government Stability indicates the government's ability to carry out policies. Its subcomponents are popular support, legislative strength, and government unity. Bureaucracy Quality captures the institutional strength and quality of the government. Democratic Accountability accounts for government's responsiveness to the public. The higher the values of these variables, the better the governing quality. We also include economic control variables, such as the log real GDP

per capita and the investment share of PPP converted GDP per capita, which come from the Penn World Table 8.0. In addition, to control for idiosyncratic shocks to banking business, we add the GFDD's banking crisis dummy. Using La Porta et al. (2008)'s data, we control for country's Legal Origin (British common law, French civil law, or German law). Our sample data do not include countries with the Scandinavian or socialist legal origin.

This paper also includes Dreher (2006)'s KOF index for economic, social, and political globalization. Higher values indicate more globalization. Finally, we close the model with ϕ_t, η_i, and $\upsilon_{i,t}$ to account for the time effects, the time-invariant fixed effects, and the random disturbance, respectively. The panel dataset covers a maximum of 77 countries for a period of 1985-2011. The results of battery of panel unit-root tests suggest that our panel dataset is stationary.

The goal of the empirical analysis is to estimate coefficients α, β, γ, δ, ζ, θ, and ξ when a time-invariant fixed effect η_i exists in the model. The use of conventional OLS models can be biased mainly due to unobserved heterogeneity caused by a time-invariant fixed term. The regression results can also be biased when the lagged regressors are included in the model. To avoid biased results due to endogeneity and unobserved heterogeneity, this study employs Arellano and Bover (1995) and Blundell and Bond (1998)'s two step version of system GMM estimator with Windmeijer (2005)'s finite-sample correction. This estimator is robust to panel-specific autocorrelation, heteroskedasticity, and a downward bias of standard errors. We assume that $FD_{i,t-1}$ is predetermined and GDP is endogenous. Dummy variables including time dummies are used as instruments of level equations. Following Bowsher (2002), we use only lagged values of weakly exogenous and contemporaneously endogenous variables from $t-2$ to $t-4$ as GMM style instruments. For more effective reduction of instrument counts, we apply a principal component analysis (PCA) to restricted instruments sets, as Roodman (2009) suggests.

3 Empirical Results

Table 1 and Table 2 present empirical results. We employ various regressands under each dimension of financial development for the robust use of selected regressors. Columns (1) through (5) in Table 1 are estimated with various measures of financial depth as the dependent variable, and columns (1) through (4) in Table 2 with various measures of financial efficiency. The results show that the role of social order is significant only in relation to the financial depth, whereas the influences of democracy and governance are significant mostly in relation to the financial efficiency.

In the economy where law and order is not well maintained and the contract viability (Investment Profile) is low, uncertainties in legal liability and profits repatriation depress credit supply by banks (columns 3 and 4 in Table 1). In addition, low Investment Profile discourages banks from purchasing bonds and, hence, depresses the amount of credit supplied to private sector by banks and the size of banks' assets (columns 1 and 2 in Table 1). The negative correlation between corruption and liquid financial instruments implies that liquid financial instruments are more prolific in a corrupt society. It is because the use of illiquid financial instruments for economic transactions requires honesty, which a corrupt society lacks.

Equal and egalitarian society tends to allow more agents with higher-risk investment projects to be funded. This can cause both the net interest margin and the cost for funding for banks to increase, deteriorating financial efficiency (columns 1 and 4 in Table 2). In contrast, an ability to carry out policy and the quality of government lower the overall risk premium and cost associated with lending, improving financial efficiency (columns 2 and 4 in Table 2). Political and institutional

influences may alter the profitability of financial intermediaries through various channels such as financial policies and regulations. A competent government and political system will implement policies that can promote financial efficiency.

Remaining regressors also show selective effects across the different measures of financial development as found in other studies. Legal origin dummies reveal that financial efficiencies differ depending on legal origins. We find that countries with French legal origin have better financial efficiency than countries with British legal origin. GDP growth appears to widen bank interest spread. The presence of banking crises tends to diminish both the financial depth and the efficiency. An increase in investment share to GDP and globalization turn out to be positively associated with the financial efficiency.

Regression specifications reject the null of AR(2) test, except for column (1). However, all the regression specifications reject the null of Hansen *J* test. In Table 1 and Table 2, the portion of the instruments' total variance explained by the retained components (PVEC) and the Kaiser-Meyer-Olkin (KMO) measure report the adequacy of the retained instruments. We extract 30 principal components from the GMM-style instruments, and as the PVEC reports, they explain about 60% to 90% of the instruments' total variance across regression specifications. The KMO is a sampling adequacy index and used to examine the appropriateness of factor analysis. Based on Kaiser (1974)'s evaluations, a factorized GMM estimator in this study presents sampling adequacy with middling (0.70 to 0.79) and meritorious (0.80 to 0.89) appropriateness. Main empirical outcomes are robust to different numbers of GMM style instruments.

4 Conclusion

Empirical results show that the depth of financial development is closely related to legal enforcement, popular observance of law, and socio-cultural risks to investment. Thus, enhancing law-abiding behavior in a market economy can be a crucial step to the deepening of financial development. On the other hand, the efficiency of financial sector appears to be unrelated to social order proxies but is significantly related to measures of democracy and governance. In this regard, policymakers may want to focus on strengthening political infrastructure to foster financial efficiency.

Depending on the priority and needs of the type of financial development, whether it is to increase the depth of the financial development or increase the efficiency of the financial sector, the results of this study provides a guideline on what types of policies each country should concentrate to achieve their financial goals.

References

Acemoglu, D., S. Johnson, and J.A. Robinson (2001) "The colonial origins of comparative development: An empirical investigation" *American Economic Review* **91**, 1369–1401.

Arellano, M. and O. Bover (1995) "Another look at the instrumental variable estimation of error-components models" *Journal of Econometrics* **68**, 29–51.

Beck, T., A. Demirgüç-Kunt, and R. Levine (2003) "Law, endowments, and finance" *Journal of Financial Economics* **70**, 137–181.

Bhattacharyya, S. and R. Hodler (2014) "Do natural resource revenues hinder financial development? The role of political institutions" *World Development* **57**, 101–113.

Blundell, R. and S. Bond (1998) "Initial conditions and moment restrictions in dynamic panel data models" *Journal of Econometrics* **87**, 115–143.

Bowsher, C.G. (2002) "On testing overidentifying restrictions in dynamic panel data models" *Economics Letters* **77**, 211–220.

Cooray, A. (2011) "The role of the government in financial sector development" *Economic Modelling* **28**, 928–938.

Dreher, A. (2006) "Does globalization affect growth? Evidence from a new index of globalization" *Applied Economics* **38**, 1091–1110.

Girma, S. and A. Shortland (2007) "The political economy of financial development" *Oxford Economic Papers* **60**, 567–596.

Goldsmith, R. W. (1969) *Financial Structure and Development*, Yale University Press.

Huang, Y. (2010) "Political institutions and financial development: An empirical study" *World Development* **38**, 1667–1677.

Kaiser, H.F. (1974) "An index of factorial simplicity" *Psychometrika* **39**, 31–36.

La Porta, R., F. Lopez-de-Silanes, and A. Shleifer (2008) "The economic consequences of legal origins" *Journal of Economic Literature* **46**, 285–332.

La Porta, R., F. Lopez-de-Silanes, A. Shleifer, and R. W. Vishny (1997) "Legal determinants of external finance" *The Journal of Finance* 52.3, 1131–1150.

— (1998) "Law and finance" *Journal of Political Economy* **106**, 1113–1155.

McKinnon, R. (1973) *Money and Banking in Economic Development*, Brookings Institution.

Roodman, D. (2009) "A note on the theme of too many instruments" *Oxford Bulletin of Economics and Statistics* **71**, 135–158.

Shaw, E. (1973) *Financial Deepening in Economic Development*, Oxford University Press.

Windmeijer, F. (2005) "A finite sample correction for the variance of linear efficient two-step GMM estimators" *Journal of Econometrics* **126**, 25–51.

Yang, B. (2011) "Does democracy foster financial development? An empirical analysis" *Economics Letters* **112**, 262–265.

Table 1: Determinants of financial depth

	(1) Private credit by deposit money banks to GDP (%)	(2) Deposit money banks' assets to GDP (%)	(3) Liquid liabilities to GDP (%)	(4) Financial system deposits to GDP (%)	(5) Deposit money bank assets to deposit money bank assets and central bank assets (%)
FD_{t-1}	0.9535***	0.9720***	1.0341***	1.0311***	0.9076***
	(0.0895)	(0.1019)	(0.0726)	(0.0735)	(0.0966)
Law and Order	0.3793	0.2768	0.3290**	0.2784**	0.4703
	(0.4246)	(0.4065)	(0.1688)	(0.1208)	(0.5185)
Investment Profile	0.4658**	0.3894**	0.1879**	0.1687**	0.1559
	(0.2207)	(0.2141)	(0.0952)	(0.0745)	(0.2118)
Corruption	-0.1447	-0.1873	-0.3042**	-0.1343	-0.6109
	(0.4897)	(0.4200)	(0.1735)	(0.2555)	(0.6059)
Polity IV	-0.0115	-0.0419	0.0830	0.0241	0.1497*
	(0.0924)	(0.1286)	(0.0915)	(0.0423)	(0.1134)
Government Stability	-0.0811	-0.1614	0.0624	0.0260	0.2095
	(0.2410)	(0.1996)	(0.1624)	(0.1060)	(0.2280)
Bureaucratic Quality	-0.8841	-0.7306	-0.0241	-0.6626	0.4823
	(1.0413)	(0.7788)	(0.7965)	(0.6792)	(1.1953)
Democratic	0.0260	0.0757	-0.2428	-0.0801	-0.0159
Accountability	(0.3213)	(0.3325)	(0.2082)	(0.1740)	(0.3360)
Legal Origin (Britain)	0.3826	0.5310	-1.1635	0.1932	-2.5102
	(2.8281)	(2.7373)	(1.6287)	(1.6159)	(2.5092)
Legal Origin (France)	-0.5587	-0.5946	-0.3332	0.1370	-2.1102
	(2.1773)	(2.0013)	(0.7594)	(0.4787)	(1.8879)
Banking Crisis	-1.4664**	-0.6653	-0.1608	-0.1994	-2.4340***
	(0.8454)	(0.8241)	(0.4678)	(0.3078)	(0.9462)
$ln\,GDP$	3.2706	3.4900	-0.2264	1.8553	-3.8044
	(3.1638)	(3.1438)	(3.0807)	(2.3267)	(3.8218)
Investment Share to	4.1620	0.2946	0.2931	-1.2264	4.6234
GDP	(7.0286)	(6.2668)	(3.9857)	(2.6688)	(5.8868)
Economic Globalization	-0.0387	-0.0381	-0.0091	-0.0076	-0.0048
	(0.0592)	(0.0423)	(0.0217)	(0.0170)	(0.0507)
Social Globalization	-0.0949	-0.1279	-0.0122	-0.0955	0.1928
	(0.1152)	(0.1210)	(0.1042)	(0.0856)	(0.1652)
Political Globalization	0.0060	0.0123	-0.0093	-0.0092	0.0024
	(0.0406)	(0.0475)	(0.0212)	(0.0151)	(0.0301)
AR(2) test	[0.0063]	[0.7942]	[0.3189]	[0.1446]	[0.3554]
Hansen-J test	[0.4830]	[0.4229]	[0.0967]	[0.1096]	[0.1203]
$PVEC$	0.679	0.691	0.701	0.699	0.755
KMO	0.7642	0.7795	0.7904	0.7873	0.8396
Instruments	71	71	71	71	71
Countries	77	77	77	77	77
Observation	1619	1619	1630	1629	1717

Note: *(**(***)) represent statistical significance at the 10%(5%(1%)) levels. Robust (Weindmeijer-corrected) standard errors in parentheses and the significance of independent variables' coefficients are based on one-tailed tests. For AR(2) and Hansen-J tests, the p-values are in brackets. All the models contain the set of time dummies but not reported. A constant term is also estimated, but this study does not report it for parsimony.

Table 2: Determinants of financial efficiency

	(1) Bank net interest margin (%)	(2) Bank lending-deposit spread	(3) Bank overhead costs to total assets (%)	(4) Bank cost to income ratio (%)
FD_{t-1}	0.3659***	0.4389***	0.4406***	0.4278***
	(0.1042)	(0.0847)	(0.0203)	(0.0570)
Law and Order	-0.0740	0.3035	-0.0187	-0.1006
	(0.1488)	(0.4919)	(0.1169)	(0.7841)
Investment Profile	-0.0166	0.2115	0.0234	0.1646
	(0.0709)	(0.2545)	(0.1666)	(0.3266)
Corruption	0.1471	0.5174	-0.0440	0.3632
	(0.1264)	(0.5293)	(0.1734)	(0.7189)
Polity IV	0.0748**	0.0040	0.0633	0.3819***
	(0.0374)	(0.1007)	(0.0883)	(0.1365)
Government Stability	-0.0127	-0.4354**	-0.0469	-0.7164***
	(0.0765)	(0.2537)	(0.1623)	(0.2934)
Bureaucratic Quality	-0.2135	-1.7332**	-0.8760*	-1.9487*
	(0.3511)	(0.9587)	(0.5584)	(1.3320)
Democratic	-0.1978	-0.3055	-0.2223	-0.6523
Accountability	(0.1646)	(0.4586)	(0.3056)	(0.5401)
Legal Origin (Britain)	0.9625*	1.8613	1.4694**	0.1165
	(0.6206)	(2.4598)	(0.7010)	(2.3452)
Legal Origin (France)	0.1041	0.7910	0.6211*	1.2045
	(0.4355)	(1.6175)	(0.4192)	(2.0824)
Banking Crisis	-0.1744	1.0641*	2.5544	6.3149**
	(0.4249)	(0.6504)	(2.4779)	(2.9963)
$lnGDP$	-0.5855	5.2580**	0.2138	0.2624
	(0.6280)	(3.1059)	(1.9985)	(4.0290)
Investment Share to	-3.5610**	-6.7270	-4.4820***	-16.646***
GDP	(1.8658)	(6.2546)	(1.7518)	(5.7954)
Economic Globalization	-0.0006	0.0323	-0.0223	-0.1480***
	(0.0136)	(0.0518)	(0.0226)	(0.0579)
Social Globalization	0.0073	-0.3114***	0.0174	0.0823
	(0.0276)	(0.1304)	(0.0955)	(0.1927)
Political Globalization	-0.0293***	-0.0363	-0.0059	-0.0227
	(0.0101)	(0.0388)	(0.0109)	(0.0329)
AR(2) test	[0.5755]	[0.0904]	[0.1634]	[0.4529]
Hansen-J test	[0.2219]	[0.3687]	[0.2055]	[0.5783]
$PVEC$	0.910	0.666	0.889	0.919
KMO	0.8355	0.7778	0.8121	0.8387
Instruments	56	71	56	57
Countries	76	73	76	76
Observation	855	1297	858	932

Note: *(**(***)) represent statistical significance at the 10%(5%(1%)) levels. Robust (Weindmeijer-corrected) standard errors in parentheses and the significance of independent variables' coefficients are based on one-tailed tests. For AR(2) and Hansen-J tests, the p-values are in brackets. All the models contain the set of time dummies but not reported. A constant term is also estimated, but this study does not report it for parsimony.