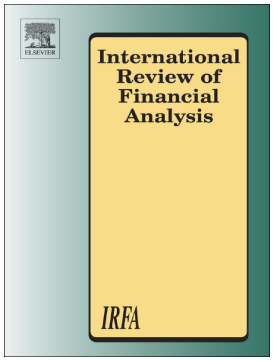

Financial structure and economic development: Evidence on the view of 'new structuralism'

Ayse U. Demir, Stephen G. Hall

PII: S1057-5219(17)30076-5
DOI: doi: 10.1016/j.irfa.2017.07.003
Reference: FINANA 1116

To appear in: *International Review of Financial Analysis*

Received date: 9 February 2017
Revised date: ###REVISEDDATE###
Accepted date: 7 July 2017

Please cite this article as: Ayse U. Demir, Stephen G. Hall , Financial structure and economic development: Evidence on the view of 'new structuralism', *International Review of Financial Analysis* (2016), doi: 10.1016/j.irfa.2017.07.003

Financial Structure and Economic Development:

Evidence on the View of 'New Structuralism'

Ayse U. Demir[1] Professor Stephen G. Hall[2]

ABSTRACT

This paper examines the relationship between financial structure and economic development for Germany, the USA, France and Turkey between 1989 and 2012. Nonlinear Autoregressive Distributed Lags (NARDL) is employed to investigate whether a dynamic change exists in the financial structure of these countries in response to a change in their stage of economic developmentas suggested by the view of 'new structuralism'. Partly in line with the previous literature, which classified the financial systems of Germany as bank-based, the USA as market-based and France and Turkey as in an intermediate position between these two profiles, the findings presented in this work also give credence to'new structuralism' theory on the linkages between financial structure and the stage of development for these four economies

JEL Classification G10, G21

Keywords: financial structure, economic development, new structuralism,

NARDL.

[1] Department of Economics, University of Leicester. Email: ayseulkudemir@gmail.com

[2] Department of Economics, University of Leicester. Email: s.g.hall@le.ac.uk

Financial Structure and Economic Development: Evidence on the View of 'New Structuralism'

1. Introduction

During the last few decades, the structure of the financial sector(whether it constitutes a bank- or market-based system), is among the determinants of financial system that have received considerable attention among researchers where they focused on the relative advantages of bank-based and market-based financial systems (Levine, 2002; Allen;2006; Lee, 2012), resulting in a diversity of theories to explain the cross-country differences of financial structures.Stiglitz (1985) and Singh (1997) have argued that the banking system plays a key role in the growth process, while Greenwood and Jovanovic (1990), Greenwood and Smith (1997) and Allen and Gale (2000), tend to favour the role of the stock market in promoting economic growth. A number of papers emphasise the advantage ofbanks over capital markets for: (1) supporting settlements for new firms; (2) providing funds for existing firms; and (3) enabling efficient allocation of capital. Others, however, stress the importance of capital markets for the provision of a substantial degree of risk-diversification, and for facilitating the transfer of innovation (Beck and Levine,2002). Alongside these competing views, a number of authors argue that it is the overall development of the financial system, rather than its structural form, that is significant for growth. Boyd and Prescot (1998) and Blackburn et al. (2005) have demonstrated that both banks and stock markets are necessary for an increase in economic growth. Accordingly, they consider banks as complementing stock markets, rather than acting as substitutes for each other.

A further strand of the literature underlines the importance of alegal framework as a key determinant of the structure of a financial system, claiming that an effective legal system eases the operation of both stock markets and banks (Levine, 2002).

More recently, a growing number of studies have evolved to propose the view of new structuralism to explain the relationship between financial structure and economic growth. The new structural approach, as formulated by Lin (2010), claims that the primary determinant of a financial structure is, in turn, the structure of the real economy. He notes the existence of an optimal financial structure, which is determined endogenously at each stage of economic development.The proponents of this view suggest that the structure of the financial system is bank-based during the early stages of real sector development, becoming more market-based during its advanced stages.

This paper constitutes an empirical investigation of the new structural approach through a comparative analysis of four countries: USA; Germany; France;Turkey. Previous evidence concerning the debate between market-based versus bank-based systems has centred on the financial systems of Germany as bank-based, the USA as market-based, and France and Turkey as being within the range of both types(Arestis and Demetriades,1996; Demetriades and Hussein,1996;Arestis and Demetriades,1997;Arestis et al., 2001). We proposea reconsideration of the analysis of the financial structures of these countries from the perspective of new structuralism to provide new insights into their broader implications for those economies.

Two main questions motivate this investigation: 1) is there evidence of a shift over time in the significance of each profile of financial structure, with respect to a change in the level of economic development, as anticipated by the view of ‘new structuralism’? and 2) is the conventional wisdom concerning the structure of the financial systems of the countries of interest still valid?

For this purpose we employ a recently developed technique, known as Nonlinear Autoregressive Distributed Lags (NARDL), to empiricallyexamine the relationship between financial structures and economic growth. The primary advantage of this method is its ability to enable the underlying variables to move between different regimes. More precisely, the NARDL as advanced by Shin et

al.(2014) offers an error correction mechanism that incorporates the asymmetries into the long run cointegration. This allows for an observation of the asymmetric responses of the financial structure to both negative and positive changes in economic development, i.e. it uncovers nonlinearities associated with the new regulations and reforms influencing the financial system through the channel of economic development.

The remainder of thispaperis organised as follows: section 2 reviews the theoretical arguments concerning the financial structure; section 3 provides empirical evidence; section 4 discusses the methodology, and provides a brief description of the data; section 5 presents the empirical results; section 6 forms the conclusion.

2. Views of the financial structure and empirical evidence concerning the relationship between financial structure and economic growth

The literature identifies three major issues expected to be resolved by means of the financial systems. The first concerns asymmetric information, which creates issues of adverse selection and moral hazard. The second concerns uncertainty, which is regarded as a severe issue in the free market economy. The final concerns the principle-agent problem arising in association with market imperfections (Arestis and Demetriades, 1996).

Stigler (1967) underlines three sources that generate capital market imperfections. The first concerns the higher cost of borrowing and difficulties in accessing the market, thus obstructing capital to flow into projects with higher returns. The second concerns the existence of monopoly (or oligopoly) power dominating capital markets and inducing lenders to obtain excessive returns. The third concerns the higher cost of acquiring information. The inefficiencies created by these factors call for the presence of financial institutions and systems in terms of banks, stock markets, or both, depending on their capacity to resolve these issues.

The relationship between principal and agent can be defined as a contract, in which the principal acts as a decision-making authority on behalf of the agent. This service imposes monitoring costs on the agent by the principal; although it also leads to the principal undertaking the bonding cost incurred by the agent. A residual loss emerges related to the discrepancy between the optimal decision-making mechanisms of the agent and principal. This loss leads to a fall in the principal's welfare (Jansen and Meckling, 1976).

This type of relationship is prevalent in financial institutions and markets, an example of which can be observed between managers and shareholders, in which the former acts on behalf of the latter. In this case, economic agents rely on financial intermediaries to alleviate the cost of information and transaction, along with risk-sharing opportunities and efficient allocation of capital. The extent and form of these services displays variation in relation to the financial structure, i.e. whether it constitutes a bank-based, or a market-based, financial system (Elsayed, 2013).

When it comes to the relative importance of these two structural forms, the literature diverges. Five competing views address the issue of the financial structure:

(1) the bank-based system: The bank-based system emphasises the positive effect of banks on the economy, through three main channels. Firstly, banks acquire information concerning managers and firms that serves to increase the efficiency of corporate governance and improves capital allocation. Secondly, banks manage intertemporal, cross-sectional and liquidity risks, thus improving efficiency in investment and enhancing economic growth. Finally, banks provide capital mobilisation, in order to benefit from the economies of scale (Levine,2002).

(2) the market-based system: The market-based view underlines the positive role of financial markets in stimulating growth through three main channels. Firstly, financial markets increase incentives towards the monitoring of firms, since

trading in liquid and large markets benefits from this information. Secondly, financial markets improve corporate governance by facilitating takeovers and linking managerial compensation to their firms' performance. Finally, financial markets ease risk-management (Levine, 2002).

(3) financial services : This approach proposes that the prior issue in a financial system concerns its capacity to enhance the knowledge of agents and lower transaction costs. Thus, banks and markets are regarded as complementing each other.

(4) law and finance: The law and finance view emphasises the importance of legal systems as key determinants of financial sector development. According to this view, it is more beneficial to categorise countries according to the effectiveness of their legal system in ameliorating financial transactions than distinguishing them by their financial structure (La Porta et al., 2000).

(5) new structuralism: Financial structuring is viewed as a dynamic process, endogenously determined by the demand for particular types of financial services that differ in relation to each stage of development. During the early stages of the real economy, the financial system tends to be more of a bank-based system, in which banks are pervasive and provide financial services. As the economy evolves, with a greater amount of capital accumulation, the structure of the financial system is more likely to be market-based.

Alarge number of studies have evolved in the empirical literature, which has investigated the role of financial structure on the economic performance. Early studies (Arestis and Demetriades,1996; Demetriades and Hussein,1996; Arestis and Demetriades,1997; Arestis et al.,2001) generally provide time series evidence of a comparative analysis of Germany and Japan (considered to be bank-based financial systems) and the UK and USA (considered to be market-based financial systems). The research provides cross-country evidence (Levine,2002; Beck and Levine,2002; Tadesse,2002), giving credence to the views of the financial

services and law and finance. In turn, more recent studies (Allen et al., 2006; Demirguc-Kunt et al., 2011; Lee, 2012; Cull and Xu, 2013) provide results in line with the view of new structuralism.

3. Methodology and data

3.1. Asymmetric cointegration and dynamic multipliers in non-linear autoregressive distributed lag(NARDL)

The Nonlinear Auto-Regressive Distributed Lag Model (NARDL) advanced by Shin et al. (2014) is employed in this study to explore the extent of the pass-through of economic development into structural change in the financial system over both the long- and short-term.

In the literature, the relationship between the financial structure and economic development is generally analysed by means of the standard time series methods of cointegration, granger causality and error correction models. These methods allow for the evaluation of the long-term relationship between the underlying variables, as well as their short run dynamics. However, they assume a symmetric (i.e. linear) association between financial structure and economic growth. The proposition of a symmetric (i.e. linear) relationship between macroeconomic variables is restrictive, primarily when economic policy intervention arises in the economy during the time span (Ibrahim, 2015). Accordingly, we propose theuse of methods permitting nonlinearity in modelling the relationship between the variables of interest as a more appropriate approach for the analysis of the underlying relationships.

The empirical literature examining the non-linear cointegration, in turn, is generally confined to the three regime switching models, i.e. Error Correction Mechanisms (ECM).Balke and Fomby (1997) have developed a threshold ECM, in which an Engle-Granger two-step procedure is implemented, in order to test the threshold and cointegration relationship. Psaradakis et al. (2004) estimate two

error correction models, in which the transition is provided through the Markov regime-switching process. Kapetanios (2006) has developed Smooth Transition ECM to estimate a smooth transition error correction model, and the residuals, through a two-step Engle-Granger approach. Despite the fact that these methods present advantages by considering nonlinearity, they prove restrictive in that they specify the long-term cointegration with the nonstationary variables that are in a linear form. In addition, it is, in practise, controversial to produce a unique model that simultaneously formulates the short-term and long-term dynamics, considering the difficulties in identifying the transition functional forms and threshold variables (Shin et al.,2011).

Recently, Shin et al. (2014) have developed NARDL, which yields significant advantages over the existing methodologies in jointly modelling the asymmetries and cointegration dynamics in a single step, thus improving the performance of the cointegration test in small samples. It derives asymmetric cumulative dynamic multipliers that give the ability to trace out asymmetric adjustment patterns of the positive and negative shocks to the repressors. Furthermore, it provides flexibility by relaxing the assumptions of ECM concerning the time series properties of the variables, in which they are required to be integrated in the same order. Appendix A illustrates the modelling of asymmetries within a NARDL framework.

3.2.Data

The empirical investigation inthis paperis based on the comparative analysis of the USA, Germany, France and Turkey in order to establish whether the view of new structuralism holds in relation to their financial structure-growth nexus.The financial system of the USA is identified as one of the main market-based systems characterised by advanced capital markets, and banks have a relatively low share in the allocation of resources. On the other hand, the German financial system is established as being dominated by banks, with a close involvement with industrial firms, and has a relatively low developed capital market. The financial structure of France is generally accepted as an intermediate stage between market-based and

bank-based, with the recent reforms leading to a higher tendency towards the former (Arestis and Demetriades, 1996; Arestis et al.,2001)[3].

Goldsmith (1969) argues that the financial structure classification of the above countries may not provide an appropriate tool for comparative analysis, since these countries have similar real growth rates and real per capita income levels. It is therefore difficult to attribute their similar growth rates to differing structural forms of a financial system. Based on Goldsmith's (1969) argument,Levine (2002) and Beck and Levine (2002) also state that it is hard to offer broad conclusions concerning the relative importance of market-based and bank-based financial systems from the comparative analysis of the above countries[4]. Even though, the investigation concerning the view of new structuralism involves the response of finance to the differing stages of economic development, inclusion of a developing country in to the comparative analysis of the above developed countrieswould still be useful to understand how the view of new structuralism works in different country groups. Therefore, following Arestis and Demetriades (1996), Turkey is included as an alternative country, as it has a real income level lower than these countries, and a financial structure that has been identified as neither a bank-based, nor a market-based, system.

Since the middle of the 1980s, Turkey has experienced a process of financial liberalisation, one aspect of which has been a number of attempts to enlarge the capital market. Furthermore, the Turkish banking system has experienced a remarkable reconstruction since the national financial crisis of 2001 (Disbudak, 2010). Considering these improvements in the financial system, an examination of the ways in which the banking system and capital markets respond to the differing

[3]Japan is a further country identified as bank-based in the literature. However, the stock market has recently played a more important role in promoting growth than the banking sector. In addition, the banking sector has had a mixed effect on economic growth in recent years, due to the large amount of bad loans (Lee, 2012). Therefore, priority is given to Germany in this paperas the main representative of a bank-based financial system.

[4]In particular, they base their statement on the comparative analysis of the financial systems and macro levels of Germany and the UK. Therefore, the present study prefers the USA as the main representative of market-based financial system, in order to provide a stronger basis for the comparative investigation.

stages of economic development has the potential to provide new insights into an analysis of the financial structure evolution in Turkey.

Following the literature (Levine, 2002; Tedesse, 2002 and Demirguc-Kunt et al., 2011), the financial structure ratio as a measurement combines indicators of both banks and markets in a single variable, and is constructed by dividing stock market capitalisation with private sector credit. Levine (2002) defines this ratio as 'structure-size', since its components (i.e. market capitalisation and private credit) provide information concerning the size of the stock market and the banking sector, respectively. Private credit is used as the banking sector indicator, consisting of the value of credits supplied to the private sector by deposit money banks relative to GDP. The main advantage of this measure is to exclude credit offered to government, and credit supplied by central banks, which provides information solely on the intermediation performance of the banking system. Stock market capitalisation represents the ratio of the value of listed domestic shares in the stock market to the GDP. It represents the proportion of the size of the stock market in the overall economy (Levine, 2002).

In accordance with Lee (2012) and Demirgunc-Kunt et al. (2011), log-transformed real GDP per capita is used to present economic development. Data has been collected from the Global Financial Database (2013) and the World Development Indicators (2015), covering the period 1989-2012[5].

Table 4.1provides an overall picture of the changes in real and financial sector indicators for France, Germany, Turkey, and the USA between 1989 and 2012. In the case of France, both measures of the financial system experienced an increase between 1989 and 2012. Although stock market developed, the banking sector maintained dominance in the financial system in both periods. Germany

[5] The empirical evidence in relation tosingle country studies principally uses country-specific data. These measurements are useful, but difficult to use in multi country analysis (Lee, 2012). Therefore, the same data source has been chosen for the countries of interest, in order to provide consistency in the measurement. The restriction on the time span is strictly due to the data availability in relation to stock market capitalization.

experienced improvements in both components of the financial sector, with stable share of stock market in the financial system. Similar to France, banking was the dominant sector of the German financial system in both periods. In Turkey, the stock market experienced a remarkable improvement between 1989 (corresponding to the first year of the establishment of capital market) and 2012. The banking sector's share also increased, dominating the financial system in both periods. In contrast with the other countries represented, in the USA the dominance of the sectors reversed between 1989 and 2012. In 1989, the banking sector's share exceeded that of the stock market with slight variation. However, by 2012, the stock market dominated the financial sector with a share almost twice that of the banking sector. In terms of real sector, i.e. real GDP per capita, the USA was the leading country in both periods. Germany and France follow the USA, yielding similar trends, with parallel levels in both periods. Turkey, as a developing country had previously lagged behind developed countries; however, it exhibited an accelerating pattern.

Table 4.1: Main indicators of financial and real sector

	Stock market capitalization to GDP (%)		**Private credit by deposit money banks to GDP (%)**		**GDP per capita (constant 2005 US$)**	
	1989	**2012**	**1989**	**2012**	**1989**	**2012**
France	28.82	60.97	83.99	115.23	27589.19	35723.87
Germany	20.02	26.53	82.45	101.47	27575.81	39273.38
Turkey	3.05	31.27	13.35	49.99	4668.08	8483.33
USA	55.86	106.97	56.56	49.04	32716.66	45038.20

Data has been collected from Global Financial Development Indicators (2013)

3.3.Empirical Model

The view of new structuralism anticipates that banks are the main institutions in the financial system during the early stages of economic development, while in

advanced stages the financial system has a market-based structure. Therefore, the financial system possesses a dynamic structure that changes over time with respect to a change in the demand coming from real sector. In accordance with the literature (Arestis et al.,2001; Lee,2012), the financial structure and economic development link can be examined using the following model:

$Fsr = f(Ed^{-}, Ed^{+})$

Where Fsr represents financial structure ratio, Ed^{-} and Ed^{+} correspond to the negative and positive partial sums of negative and positive changes in the log-transformed real GDP per capita.

4. Empirical results

The main empirical investigation concerning the view of new structuralism is undertaken through the NARDL framework. Therefore, through the construction of the NARDL model, lower and higher regimes correspond to the low and high stages of economic development, respectively. If the view of new structuralism holds for the financial system of a country, then it could be expected that the real economy in the higher regime would have a positive effect on the financial structure ratio, while in the lower regime this effect would be negative. The financial structure ratio is calculated by dividing stock market capitalisation to private credit. Therefore, a higher financial structure ratio implies an increase in the market dominance in the financial system.

In the first part, a series of analysis is conducted to ensure that NARDL forms the accurate model specification. The estimation of the output of the NARDL model (equation 6 in Appendix) is provided in the second part.

1.Table 5.1 provides a static linear regression of financial structure on real income, a time trend and constant. It can be observed that the Engle-Granger (EG) cointegration test provides no evidence of a linear cointegration between financial structure and real income for all countries, apart from Turkey.

Table 5.1: Static linear regression

	USA	GERMANY	FRANCE	TURKEY
Ed	9.071**	1.139	8.208***	-3.482
Trend	-0.117**	-0.006	-0.0851***	0.098
Constant	-92.357**	-11.420	-83.483***	30.258
R^2	0.344	0.261	0.666	0.041
EG	-1.86	-2.90	-1.25	-3.81**

Dependent variable is financial structure ratio. Ed is the log of real GDP per capita. *, ** and *** denote the significance levels of 10, 5 and 1 percent, respectively.

Table 5.2 reports the test statistics of the asymmetric regression with the partial sum decompositions of real income. Again, the EG test fails to reject the null of no cointegration for all countries. The significant coefficients of the partial sums and the result of Wald test ($W_{+=-}$) with the rejection of the null hypothesis of symmetry in the long run in the majority of the specifications could prove an indication of the non-linear relationship between financial structure and economic development.

Table 5.2: Static asymmetric regression

	USA	GERMANY	FRANCE	TURKEY
Ed^+	-5.105*	-0.734*	-4.064**	1.345*
Ed^-	13.419**	2.914***	11.694***	-4.212*
Constant	1.762**	0.241***	0.339***	0.931***
R^2	0.287	0.388	0.494	0.010
$W_{+=-}$	3.59*	7.42***	8.61***	1.77
EG	-1.960	-2.609	-2.204	-2.186

Dependent variable is financial structure ratio. Ed is the log of real GDP per capita.Ed^- and Ed^+ correspond to the negative and positive partial sums of negative and positive changes in the log -transformed of real GDP per capita *,** and *** indicate the significance levels of 10, 5 and 1 percent, respectively. $W_{+=-}$denotes Wald test of symmetry in the long run.

Since the static models are unable to provide evidence concerning the cointegration, the dynamic modelling of the relationship between financial structure and real income is offered through the symmetric ARDL framework (equation 8,section Appendix A), in order to overcome a potential problem of model misspecification. Before moving on to ARDL, it is important to check the stationary properties of the series, in order to ensure that their order of integration

is compatible with the methodology[6]. Table 5.3 provides the Augmented Dickey-Fuller (ADF) unit root test results of the underlying variables. In all countries, both Fsr and Ed are integrated of order 1 (that is, they are I(1)). Accordingly, ARDL (i.e. a restricted form of NARDL) can be performed to test cointegration(i.e. the model specified in equation 8 in Appendix A) using the Schwarz criterion (SC) to choose the optimal lag order[7].

Table5.3:Unit root test results (ADF)

	USA		GERMANY		FRANCE		TURKEY	
	Level	Difference	Level	Difference	Level	Difference	Level	Difference
Fsr	-1.307	-5.223**	-2.129	-4.933**	-2.172	-4.143**	-1.936	-6.212***
Ed	-1.380	-7.912***	-2.168	-6.532***	-1.112	-5.515**	2.671	-4.223**

*,** and *** denotes the significance levels of 10, 5 and 1 percent, respectively.Fsr denotes financial structure ratio.Ed is the log of real GDP per capita.

Table 5.4 provides the estimation results of the ARDL model[8]. Several variables have insignificant coefficients. In addition, the bounds tests of cointegration given at the bottom of the table fail to reject the null of no cointegration for all countries. Positive coefficients of lagged dependent variables also yield a severe problem, being expected to be negative to ensure the existence a long run relationship. These results could be an indication of model misspecification invalidating the testing hypothesis and estimation results. In this case, the financial structure-real income nexus estimated within a linear ARDL framework gives misleading results. Therefore, non-linear ARDL can alternatively be performed to alleviate issues related to linear ARDL specification.

[6] The ARDL method can be applied irrespective of the integration order of the variables, whether they are I(0) or I(1), but there is still a need for further check not to include variables that are I(2).
[7] SC is used to choose optimal lag order, since it has been established as a more consistent model than Akaike Information Criterion (AIC) (Shin et al., 2011).
[8]This specification has been attained either by selecting the model based on SC, or starting with a maximum lag order of (4), then applying the general to the specific approach.

Table 5.4: Dynamic linear estimation (ARDL)

	USA	GERMANY	FRANCE	TURKEY
Fsr_{t-1}	0.499*	-0.546	0.648*	-0.514
Ed_{t-1}	0.661	0.160	1.256	-0.517
$dFsr_{t-1}$	-0.271	-0.175	0.157	
$dFsr_{t-2}$	0.102		-0.02	-0.358
$dFsr_{t-4}$		0.073	-0.028	-0.107
dEd_{t-1}	17.876*	2.184	6.188	-2.432
dEd_{t-2}			5.970	0.243
dEd_{t-4}		0.327		0.223
Cons	-6.119	-1.494	11.234	5.164
L_{Ed}	-1.32	0.292*	-1.93*	1.006
R^2	0.375	0.291	0.356	0.505
F_{PSS}	0.39	0.14	4.10	0.27
Test Statistic	95% lower bound		95% upper bound	
F_{PSS}	4.94		5.73	

Fsr denotes financial structure ratio.Ed is the log of real GDP per capita. L_{Ed} is the long run coefficient defined by $\hat{\beta} = -\hat{\theta}/\hat{\rho}$. In the bottom line of the table, the 5% critical values of upper and lower bound for k=1 are given that are tabulated by Peseran, Shin and Smith (2001) (F_{PSS}).

2.Before implementing NARDL, the location of the threshold value of (log) real GDP per capita growth needs to be determined, around which the partial sums decompositions of (log) real GDP per capita fluctuate[9]. The Hansen (1999) procedure is therefore employed to estimate the threshold value. The identification process of the threshold is conducted by choosing the threshold value over a 15% grid search providing the smallest value of the residual sum of the squares. The results are reported in Table 5.5. All of the estimated threshold values are highly significant, with close levels among developed countries. Turkey (as a developing country) takes the highest value, which could be attributed to the catch-up effect (i.e. convergence theory). This finding also favours non-linear modelling of financial structure-real income nexus.

Table 5.5: Threshold estimates of (log) GDP growth

	USA	GERMANY	FRANCE	TURKEY
Threshold Estimate	0.0179***	0.0159***	0.0136***	0.0381**
Confidence Interval	-0.0372-0.0.526	-0.0215-0.0316	-0.0349-0.0513	-0.0732-0.0422

*,** and *** denotes the significance levels of 10, 5 and 1 percent, respectively.

Table 2.6 demonstrates the estimation output of the asymmetric ARDL. The interpretations of the results are reported separately for each country.

USA: The bounds cointegration test (F_{PSS}) firmly rejects the null hypothesis of no cointegration between financial structure and real income[10]. In addition, the Wald test of long run (W_{LR}) and short run (W_{SR}) asymmetries provides strong evidence concerning the asymmetric effects of real income in both periods. The long run coefficients in the higher and lower regimes (i.e. $L_{Ed}^{+}$and L_{Ed}^{-}) are 10.072 and 4.913, respectively. The corresponding values for the short run asymmetries (dEd^{+} anddEd^{-}) are 10.308 and 7.440. Therefore, in both regimes, the financial structure is shifting towards the market-based, with a more rapid movement in the higher stages of economic development (i.e. the upper regime).This is not a surprising

[9]Following Dawson (2003) and Akimov (2009), the log transformed GDP growth is used as calculated by the following formula: $lnGDPgrowth=lnGDP_t-lnGDP_{t-1}$

[10]F_{PSS} indicates the calculated test statistic of the model for which the 5% critical values of upper and lower bound (4.94 and 5.73) for k=1, tabulated by Peseran, Shin and Smith (2001).

finding, given that the financial system is market-based in the US, and this is consistent with earlier evidence (Gerschenkeron, 1962; Arestis and Demetriades,1996; Arestis et al.,2001). In addition, this result is partially in line with the view of new structuralism, which, in turn, is consistent with the findings of Lee (2012), i.e. a proposal that, in the USA, a higher stage of economic development is associated with a more market-based financial system.

GERMANY: The result of the bound cointegration test (F_{PSS}) provides strong evidence for the existence of the cointegration between the financial structure ratio and real income. The presence of short and long run asymmetries is confirmed by the Wald test (W_{LR} and W_{SR}), as given in the lower part of the Table 2.6. The long run coefficients(i.e. $L_{Ed}^{+}$and L_{Ed}^{-}) in the higher and lower regimes are -4.72 and -1.32, respectively. The corresponding values for the short run asymmetries (dEd^{+} anddEd^{-}) are -5.071 and -1.208. The coefficients of the higher regimes are significant in both periods, while they become insignificant in the lower regimes. Overall, higher levels of economic development are associated with a financial system that is more bank-based. This is an important finding, confirming the conventional judgment that the German financial system is dominated by the banking sector (Arestis and Demetriades, 1997; Arestis et al., 2001;Lee, 2012).It can be concluded that the new structuralism view does not hold in the case of Germany.

FRANCE: The bounds cointegration test (F_{PSS}) reveals supportive evidence for the existence of a cointegration between financial structure and real income. Moreover, the strong evidence (W_{LR} and W_{SR}) concerning short and long run asymmetries gives additional support to the fact that the functional form of the relationship between financial structure and real income is non-linear. The long run coefficient (L_{Ed}^{+}) is negative and significant in the higher regime. In the lower regime, it is (L_{Ed}^{-}), i.e. also negative, with a higher magnitude and lower significance. The short run parameter in the lower regime (dEd^{-}) is positive and insignificant, while being negative and significant in the higher regime (dEd^{+}).

These results imply that in both low and high regimes, the financial system is bank-based.However, the lower magnitude in the higher regime implies a tendency towards the market-based. This result is in line with the findings of Arestis et al.(2001) and Lee (2012), who suggest that banks are the dominant instruments in the French financial system. However, since the 1980s, a number of reforms have been undertaken towards creating a well-functioning capital market. Hence, the relatively lower coefficient of the higher regimes demonstrates that the new structuralism view is valid in the financial system of France.

TURKEY: The test statistics of F_{PSS} is 10.074, which is higher than the 5% upper-bound critical value revealing the existence of a cointegration between financial structure and real income. The Wald test (W_{SR} and W_{LR}) provides evidence on both short and long run asymmetries. The long run coefficient is negative and statistically significant in both high and low regimes ($L_{Ed}^{+}$and L_{Ed}^{-}), with a higher magnitude in the latter. In the short run, it is positive and insignificant in the lower regime (dEd^{-}) while negative and significant in the upper regime (dEd^{+}). Consequently, there is an indication of a bank-based financial system in both stages of economic development, with a tendency towards the market-based in the advanced stages of economic development.

The Turkish financial system has experienced a series of liberalisation policies since 1980, some of which have included the removal of strict regulations on the banking system, and the establishment of a stock market. However due to weak governance and a poor regulatory framework, deregulation in the financial system created severe instabilities, eventually triggering the financial crises of 2001, following which, Turkey has undergone a strict reform process of the financial system. The majority of these regulations were based on strengthening the banking sector, eventually achieving a notable improvement. The stock market has revealed a relatively stable, and increasing, trend but retains a smaller share in

the overall economy than that of the banking sector (Disbudak, 2010)[11]. Thus the historical evidence supports the findings of the NARDL estimation, suggesting that the banks have dominated Turkey's financial system during all stages of economic development, but that the share of stock market increases during the advanced stages of economic development. It can be concluded that the view of new structuralism holds in the Turkish financial system.

Table 5.6: Dynamic asymmetric estimation (NARDL)

	USA	GERMANY	FRANCE	TURKEY
Fsr_{t-1}	-0.004**	-0.087*	-0.693**	-0.563*
Ed^{+}_{t-1}	.0381*	-0.415	-1.832	-0.764
Ed^{-}_{t-1}	0.019	-0.114*	-3.300*	-2.056
$dFsr_{t-1}$	-0.497*	0.135	0.012	-0.160
dEd^{+}	10.308*	-5.071**	-1.913**	-5.147*
dEd^{+}_{t-1}	8.319	-4.070**	4.714	-6.516
dEd^{-}	7.440*	-1.208	3.317	8.521
dEd^{-}_{t-1}	13.192	3.902	-1.728	11.413
Cons	0.252	0.143*	0.013	0.765
$L_{Ed^{+}}$	10.072*	-4.720**	-2.644**	-1.358*
$L_{Ed^{-}}$	4 .913*	-1.321	-4.763	-3.650**
R^2	0.690	0.512	0.503	0.591
F_{PSS}	6.289	9.570	12.081	10.074
W_{LR}	11.699***	9.527**	11.958***	12.087***
W_{SR}	12***	8.806**	8.776**	8.051**

Fsr denotes financial structure ratio.Ed is the log of real GDP per capita .L_{y^+} and L_{y^-} defined as $\hat{\beta}^{+} = -\hat{\theta}^{+}/\hat{\rho}$ and $\hat{\beta}^{-} = -\hat{\theta}^{-}/\hat{\rho}$present the long run coefficients related with the negative and positive changes in log -transformed of real GDP per capita, respectively. Ed^{-} and Ed^{+} correspond to the negative and positive partial sums of negative and positive changes in the log -transformed of real GDP per capita.W_{LR} denotes the Wald test of symmetry in the long run, i.e. $L_{y^+} = L_{y^-}$. W_{SR} demonstrates the Wald test of short run (additive) symmetry. The 5% critical values of upper and lower bounds for k=1 tabulated by Peseran, Shin and Smith (2001) (F_{PSS}) are 4.94 and 5.73, respectively.

[11]Mutlugun (2014) reports that in 2012, the saving share of the banking sector and stock market in the total economy was 75% and 12%, respectively.

5. Conclusion

This paper examined the validity of the view of new structuralism, proposing a dynamic relationship between the structure of the financial system and economic development. The empirical investigation has been undertaken by performing NARDL, as advanced by Shin et al. (2014). This is a recent method, which gives the ability to capture the effects of differing stages of economic development on the structure of the financial system.

The essential findings of the empirical investigation can be summarised in the following three points. Firstly, in all analysed countries, the stage of economic development is important for the financial structure. Secondly, there is a positive relationship between the market-based financial system and the stage of economic development in all countries of interest, apart from Germany, where banking sector dominance increases with the level of economic development. Thirdly, there is a threshold effect of economic development, in which the relative importance of the banks and markets alters. These results are consistent with the earlier evidence (Allen et al.,2006; Lin et al.,2009; Demirguc-Kunt et al.,2011; Lee, 2012), which proposes that the structure of the financial system is shaped by demand originating from the real sector.

The findings in relation to the USA are in line both with conventional wisdom (i.e. suggesting that the USA has market-based financial system), and with the new structural view (i.e. proposing that the financial system is market-based in the advanced stages of economic development). For Germany, the findings are in line with earlier evidence (Arestis and Demetriades, 1997; Arestis et al., 2001), suggesting that the German financial system is bank-based. In addition, the dominance of the banking system in both stages of economic development (which does not agree with the view of new structuralism), gives further support to the bank-based taxonomy of the German financial system. For France, the results are in line with the findings of Arestis et al. (2001), who view banks as the main instrument in the financial system in both stages of economic development, and

are of the opinion that the relevant importance of the stock market increases over time. The results relating to Turkey (which has a relatively less developed financial system), suggest that the financial structure is bank-based in both stages of economic development, gaining an increasing share of the stock market in the advanced stages of economic development.

Given the change in the relevant importance of the two structural forms of the financial system, previous research that has been based on cross-sectional investigations assuming a stable financial structure-economic development link, may offer only a limited form of this dynamic relationship. Therefore, the main policy implication of this study is to provide a more flexible analysis, in the sense that countries do not require to be classified as either bank-based or market-based. Instead, policymakers can study thedata to determine the structural form of the financial system over time.

Appendices

Appendix A: Modelling non-linearities

Nonlinear asymmetric cointegration

The model of an asymmetric long run cointegration can be illustrated as:

$$y_t = \beta^+ x_t^+ + \beta^- x_t^- + u_t \quad (1)$$

where $y_t$denotes the dependent variable and x_t (k x1) is a set of explanatory variableswhich can be decomposed into:

$$x_t = x_0 + x_t^+ + x_t^- \quad (2)$$

where x_t^+andx_t^- are the partial sums of the negative and positive changes in the explanatory variables developed by Schorderet (2001), which correspond to:

$$x_t^+ = \sum_{j=1}^{t} \Delta x_j^+ = \sum_{j=1}^{t} \max(\Delta x_j, 0) \quad (3)$$

$$x_t^- = \sum_{j=1}^{t} \Delta x_j^- = \sum_{j=1}^{t} \min(\Delta x_j, 0)$$

Granger and Yoon (2002) introduce the notion of hidden cointegration, in which the cointegrating relationship is constructed based on the positive and negative components of the variables. Schorderet (2003) reformulates this concept and describes the linear stationary combination of the partial sums, as follows:

$$z_t = \beta_0^+ y_t^+ + \beta_0^- y_t^- + \beta_1^+ x_t^+ + \beta_1^- x_t^- \quad (4)$$

according to equation (4), the stationarity of $z_t$implies the existence of an asymmetric cointegration between y_t and x_t.

The nonlinear ARDL model

The model given by equation 2is fruitful for expositionand embodies a number of applications. However, it is possessed of too restrictive a nature, since it fails to allow for serial correlation and endogeneity, factors which considerably affect both a small sample and the asymptotic properties of the estimators[12]. In order to provide an improved approximation to resolve these two primary issues, equation 1 can be rewritten in a nonlinear ARDL (p,q) form, allowing the longrun asymmetries as:

$$y_t = \sum_{j=1}^{p} \varphi_j y_{t-j} + \sum_{j=0}^{q} (\theta_j^{+\prime} x_{t-j}^{+} + \theta_j^{-\prime} x_{t-j}^{-}) + \varepsilon_t \quad (5)$$

where the autoregressive parameter is denoted by $\varphi_j, \theta_j^{+\prime}$, and $\theta_j^{-\prime}$ stand for the asymmetric distributed lag parameters, and ε_t is the error term~i.i.d$(0,\sigma^2)$.

In accordance with Pesaran et al. (2001),the ECM representation of equation 5 can be written as:

$$\Delta y_t = \rho y_{t-1} + \sum_{j=1}^{p-1} \gamma_j \Delta y_{t-j} + \theta_j^{+\prime} x_{t-j}^{+} + \theta_j^{-\prime} x_{t-j}^{-} + \sum_{j=0}^{q-1} (\varphi_j^{+\prime} x_{t-j}^{+} + \varphi_j^{-\prime} x_{t-j}^{-}) + \varepsilon_t \quad (6)$$

Where the long run negative and positive coefficients can be depicted as:

[12]In this case, as stated by Shin et al. (2014, p.10): "OLS estimators may remain super-consistent but the asymptotic distribution is non-Gaussian. Hence, hypothesis testing cannot be carried out in the usual manner."

$\hat{\beta}^{+} = -\hat{\theta}^{+}/\hat{\rho}$ and $\hat{\beta}^{-} = -\hat{\theta}^{-}/\hat{\rho}$(7)

Since the parameters of equation 6 are in the linear form, the model can be simply estimated by OLS. In addition, the model gives the ability to simultaneously check short and long run dynamic adjustments of the variables. The null hypothesis of no long run relation ($\rho=\theta^{+}=\theta^{-}=0$) can be easily checked using bounds testing procedure proposed by Peseranet al.(2001), based on the F-test, regardless of whether the underlying regressors are I(0) or I(1).

The model nests the following two particular cases:

1) Long run (reaction)symmetry, $\rho=\theta^{+}=\theta^{-}=0$,

2) Short run (adjustment) symmetry,$\varphi_j^{+}=\varphi_j^{-}$ for all i:0,1,2.....q ,[13]

Both restrictions can be tested by the standard Wald test. If the restrictions cannot be rejected, the model is reduced to linear ARDL (p,q):

$\Delta y_t=\rho y_{t-1}+\sum_{j=1}^{p-1}\gamma_j\Delta y_{t-j}+\theta x_{t-1}+\sum_{j=0}^{q-1}(\varphi_j\ x_{t-j})+\varepsilon_t$(8)

If the asymmetry (either in long run or short run, or both) is detected in NARDL (eq. 6),the positive and negative cumulative multipliers corresponding to the unit changes inx^{+} andx^{-}, can be obtained as:

$m_h^{+}=\sum_{j=0}^{h}\frac{\partial y_{t+j}}{\partial x_j^{+}}=\sum_{j=0}^{h}\lambda_j^{+}$, $m_h^{-}=\sum_{j=0}^{h}\frac{\partial y_{t+j}}{\partial x_j^{-}}=\sum_{j=0}^{h}\lambda_j^{-}$, h=0,1,2(9)

When $h\to\infty$, m_h^{+} and m_h^{-} converge to the long run asymmetric coefficients β^{+} and β^{-}, respectively. The main advantage of the dynamic multipliers ensuring NARDL to be a preferable and powerful technique is to allow simultaneous analysis of the short run and long run asymmetries, by shedding light onto the traverse between short run disequilibrium, and long run equilibrium.

[13]A further type of short run asymmetry is in the weak form, i.e. 'additveasymmetry', and can be formulated as:$\sum_{j=0}^{q-1}(\varphi_j^{+})=\sum_{j=0}^{q-1}(\varphi_j^{-})$ which is preferred in the current study.

The primary assumption of the model given in equation 3 is that the partial sums of x_t fluctuate around a zero threshold. This assumption can simply be relaxed to take into account of the unknown threshold cases. In this paper, the Hansen (1999) procedure is adopted, in order to estimate the unknown threshold value.

Non-dynamic panel threshold model (Hansen, 1999)

Hansen (1999) proposes a non-dynamic panel threshold model to estimate the structural break point of the threshold value. Within an individual fixed effects model, observations fall into multiple regimes, depending on whether the observation is below, above, or between, threshold values. These regimes are identified by varying regression slopes. The threshold value is determined endogenously by the data, and its statistical significance is assessed by the bootstrap method. The explanatory variables are assumed to be exogenous.

A single threshold model is given as follows:

$$g_{it}= \mu_i +\beta'_1 x_{it} I(\alpha_{it}\leq\gamma) + \beta'_2 x_{it} I(\alpha_{it}>\gamma) + e_{it} \quad (1)$$

where g_{it} and α_{it} are the scalars standing for the dependent and threshold variable, respectively. Explanatory variables are denoted by x_{it}, which is a k vector. I(.) is the indicator function, and γ is the threshold parameter dividingthe sample into two regimes. Alternatively, model (1) can be written as:

$$g_{it}=\begin{cases} \mu_i + \beta'_1 x_{it} + e_{it}, (\alpha_{it} \leq \gamma) \\ \mu_i + \beta'_2 x_{it} + eit, (\alpha_{it} > \gamma) \end{cases} \quad (2)$$

The main assumption for the identification of β_1 and $\beta_2$concerns the fact that the components of x_{it} and $\alpha_{it}$are not time invariant. In addition, x_{it}, α_{it} and e_{it} are assumed to be independent and identically distributed (i.i.d).The initial step is to eliminate fixed effects employing within transformation, followed by estimatingγ

by the least squares estimation, and to establish the value minimizing the concentrated sum of the squared errors to obtain the following:

$$\hat{\gamma}=\underset{\gamma}{\operatorname{argmin}} S_1(\gamma) \tag{3}$$

where $S_1(\gamma)=\hat{e}^*(\gamma)'\hat{e}^*(\gamma)=Y^{*'}(I-X^*(\gamma)'(X^*(\gamma)'X(\gamma))^{-1}X^*(\gamma)')Y^*$ and I denotes the identity matrix. After obtaining $\hat{\gamma}$, residual vector $\hat{e}^* = \hat{e}^*(\gamma)$ and residual variance $\hat{\sigma}^2 = \frac{1}{n(T-1)}\hat{e}^{*'}\hat{e}^* = \frac{1}{n(T-1)} S_1(\hat{\gamma})$ are computed.

In order to test the significance of the threshold effect, the hypothesis of no threshold (i.e. $H_0:\beta_1=\beta_2$) is testedusing the likelihood ratio of $F_1=(S_0-S_1(\hat{\gamma}))/\hat{\sigma}^2$ (S_0 is the sum of squared residuals for a no threshold case) having a non-standard distribution. A bootstrap procedure is implemented, in order to obtain first order asymptotic distribution, in which the valid p values are constructed. If the null is rejected, a further test can be conducted,in order to distinguish between one and two thresholds, based on the likelihood ratio $F_2= (S_1(\hat{\gamma}_1)-S_2(\hat{\gamma}_2{}^{\gamma}))/\hat{\sigma}^2$ of one versus two thresholds, which can be repeated to test for more than two threshold cases.

References

Allen, F., Bartiloro, L. and Kowalewski, O. (2006) 'Does economic structure determine financial structure?',AFA 2007 Chicago Meetings Paper.

Allen, F. and Gale, D. (2000), 'Comparing financial systems',MIT press.

Andrianova, S., Demetriades, P. and Shortland, A. (2010) 'Is government ownership of banks really harmful to growth?', Working Paper, SSRN

eLibrary.

Andrianova, S., Demetriades, P. and Shortland, A. (2012) 'Government ownership of banks, institutions and economic growth', Economica, 79(315), pp. 449-469.

Arestis, P. and Demetriades, P. O. (1996) :'Finance and Growth: Institutional Considerations and Causality', SSRN eLibrary.

Arestis, P. and Demetriades, P. (1997) 'Financial development and economic growth: Assessing the evidence*', The Economic Journal, 107(442), pp. 783-799.

Arestis, P., Demetriades, P.O. and Luintel, K.B. (2001) 'Financial development and economic growth: the role of stock markets', Journal of Money, Credit and Banking, pp. 16-41.

Balke, N.S. and Fomby, T.B. (1997) 'Threshold cointegration', International economic review, pp. 627-645.

Boot, A.W. and Thakor, A.V. (1997) 'Financial system architecture', Review of Financial Studies, 10(3), pp. 693-733.

Caner, M. and Hansen, B.E. (2004) 'Instrumental variable estimation of a threshold model', Econometric Theory, 20(05), pp. 813-843.

Cull, R. and Xu, L. (2011) Working Paper Job Growth and Finance: Are Some Financial Institutions Better Suited to Early Stages of Development Than Others? 'World Bank Polic Research Working Paper Series.

Demetriades, P.O. and Hussein, K.A. (1996) 'Does financial development cause economic growth? Time-series evidence from 16 countries', Journal of Development Economics, 51(2), pp. 387-411.

.

Demirguc-Kunt, A., Feyen, E. and Levine, R. (2011), 'Optimal Financial Structures and Development: The evolving importance of banks and markets',World Bank Working Paper, No. 5805.

Disbudak, C. (2010) 'Analyzing the bank credit-economic growth nexus in Turkey', European Journal of Economics, Finance and Administrative Sciences, 23, pp. 34-48.

Ergungor, O. (2003) 'Financial System Structure and Economic Development: Structure Matters.',FRB of Cleveland Working Paper, No. 03-05, Available at: SSRN: http://ssrn.com/abstract=424063.

Gerschenkron, A. (1962) 'Economic backwardness in historical perspective.',Harvard University Press, Cambridge, (MA).

Goldsmith, R. (1969) 'Financial structure and economic development', New Haven: Yale University Press.

Greenwood, J. and Jovanovic, B. (1990) 'Financial Development, Growth, and the Distribution of Income', Journal of Political Economy, 98.

Hansen, B.E. (1996) 'Inference when a nuisance parameter is not identified under the null hypothesis', Econometrica: Journal of the econometric society, pp.

413-430.

Hansen, B.E. (1999) 'Threshold effects in non-dynamic panels: Estimation, testing, and inference', Journal of Econometrics, 93(2), pp. 345-368.

Hansen, B.E. (2000) 'Sample splitting and threshold estimation', Econometrica, pp. 575-603.

Ibrahim, M.H. (2015) 'Oil and food prices in Malaysia: a nonlinear ARDL analysis', Agricultural and Food Economics, 3(1), pp. 1-14.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A. and Vishny, R.W. (1997) 'Legal determinants of external finance', Journal of Finance, pp. 1131-1150.

La Porta, R., Lopez-de-Silane, F., Shleifer, A. and Vishny, R. W.(1998), 'Law and Finance', Journal of Political Economy, 106(6): 1113-1155.

.

Lee, B. (2012) 'Bank-based and market-based financial systems: Time-series evidence', Pacific-Basin Finance Journal, 20(2), pp. 173-197.

Levine, R. and Zervos, S. (1998) 'Stock markets, banks, and economic growth', American economic review, pp. 537-558.

Levine, R. (2001) 'International financial liberalization and economic growth', Review of international Economics, 9(4), pp. 688-702.

Levine, R. (2002) 'Bank-based or market-based financial systems: which is better?',Journal of financial intermediation, 11(4), pp. 398-428.

Levine, R. (2003) 'More on finance and growth: more finance, more

growth?',Review-Federal Reserve Bank Of Saint Louis, 85(4), pp. 31-46.

.

Lin, J.Y. (2010) 'New structural economics: A framework for rethinking development', World Bank.

Merton, R.C. and Bodie, Z. (1995) 'A conceptual framework for analyzing the financial system', The global financial system: A functional perspective, pp. 3-31.

Pesaran, M.H., Shin, Y. and Smith, R.J. (2001) 'Bounds testing approaches to the analysis of level relationships', Journal of Applied Econometrics, 16(3), pp. 289-326.

Petkovski, M. and Kjosevski, J. (2014) 'Does banking sector development promote economic growth?An empirical analysis for selected countries in Central and South Eastern Europe', Economic Research-Ekonomska Istraživanja, 27(1), pp. 55-66.

Psaradakis, Z., Sola, M. and Spagnolo, F. (2004) 'On Markov error-correction models, with an application to stock prices and dividends', Journal of Applied Econometrics, 19(1), pp. 69-88.

Shin, Y., Yu, B. and Greenwood-Nimmo, M (2011) 'Modelling Asymmetric Cointegration and Dynamic Multipliers in a Nonlinear ARDL Framework'.Festschrift in Honor of Peter Schmidt, W.C. Horrace and R.C. Sickles.

Shin, Y., Yu, B. and Greenwood-Nimmo, M. (2014) 'Modelling asymmetric cointegration and dynamic multipliers in a nonlinear ARDL framework', in Anonymous Festschrift in Honor of Peter Schmidt.Springer, pp. 281-314.

Singh, A. (1997) 'Financial liberalisation, stock markets and economic development', The Economic Journal, 107(442), pp. 771-782.

Greenwood, J. and Smith, B.D. (1997) 'Financial markets in development, and the development of financial markets', *Journal of Economic Dynamics and Control*, 21(1), pp. 145-181.

Stigler, G.J. (1967) 'Imperfections in the capital market', The Journal of Political Economy, pp. 287-292.

Stiglitz, J.E. (1985) 'Credit markets and the control of capital', *Journal of Money, Credit and Banking*, pp. 133-152.

Tadesse, S. (2002) 'Financial architecture and economic performance: international evidence', Journal of financial intermediation, 11(4), pp. 429-454.

World Bank (2001) 'Finance for Growth: Policy Choices in a Volatile World', Oxford: University Press.

World Bank(2015) World Development Indicators [online] Available at: http://databank.worldbank.org/data/views/variableselection/selectvariables.aspx?source=world-development-indicators