

Measuring Financial Repression in Selected Oil Exporting Countries

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Received: 2011/9/27

Accepted: 2012/3/8

Abstract:

Development of financial system and capital market are the two necessities to achieve economic growth and development. The experience of many developing countries showed that structural reformation in financial system and capital market is necessary to finance the required investment for economic growth. One of the main obstacles to financial development is financial repression. The aim of this study is to measure financial repression in the selected oil exporting countries including Iran, Saudi Arabia, Venezuela, Nigeria, Mexico and Indonesia for the period of 1990-2009. The model of the study is the one that introduced by Beim and Colominos (2001) and developed by Battilossi (2004). The results of the study showed that the level of financial repression was, on average, about 50 during 1990-1998. Eventually it slopes up to reach the 55 in 2009. The financial repression in Iran has almost been close to the average level of financial repression (50.2) of the studied countries.

JEL classification: G18, G28

Keywords: Financial repression, financial liberalization, government intermediate, financial development, oil exporting countries

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1. Introduction

Financial repression refers to measures taken by the government to place several limitations on economic financial intermediates to channel funds to itself that would go elsewhere in a deregulated market. Financial repression generally implicates loss of financial depth of financial intermediates of developing countries. During the last three decades, many of the developing countries embarked on developing their financial systems. This began with reducing the level of requirement reserves and barriers to entry the financial market (McKinnon, 1973); reducing governments' interference in modified credits allocation and gradually transferring ownership of major state-owned banks to the private sector. In this relation several private banks came to exist, capital markets were developed and persuasive policies were implemented to facilitate the entrance of the foreigner financial intermediates into developing countries' financial markets (Gupta, 2004).

The aim of this study is to measure the financial repression in the selected oil exporting countries including Iran, Indonesia, Mexico, Nigeria, Saudi Arabia and Venezuela. The reason behind this selection is mainly the availability of the required data and information. The annual data was collected from International Financial Statistics (IFS) and World Development Indicators (WDI) for the period 1990 to 2009. The key to this subject is to start with factors causing financial depression. Inter alia, the mandatory allocation of credits to specific economic sectors is the main determinant of financial repression. The experience of many countries has showed that government intervention in the economy would reduce economic growth rate in mid and long term. The main reason why governments adopt financial repression policies is to take control over the reserves to channel funds to themselves. Governments may obtain funds easily and without having to pass legal processes only by having direct control of financial system. By taking restricting measures over the existing financial intermediates and imposing barriers on market entry, governments tend to be monopolistic to

monopolize the financial system in order to facilitate collusion to fill budget deficit. These measures lead to the failure of release policies which governments claim that they are interested in (Denizer and et al. 1998). Financial repression manifests itself in numerous government instructions issued to banks to allocate their credits to industries which are strategically important for government. This obligation leads to misallocation of financial resources which is fueled by issuing several instructions to insure that financial resources are channeled in accordance with the requirements of government policies.

Interest controls to fix interest rates at relatively low levels and mandatory credit allocation mechanisms to affect the distribution of credit among industrial sectors are well-known scenarios in developing countries to interfere in financial markets (McKinnon, 1973 and Shaw, 1973).

McKinnon (1973) and Shaw (1973) put forward the theory of financial repression for the first time in 1973 to highlight the problem of inefficient allocation of financial resources and transferring wealth from creditors (citizens) to governments. They studied empirically several developed and developing countries to investigate the relationship between efficient financial system and steady growth rate accompanied by efficient capital allocation. Their findings showed that government interference with vast instructions restricts the competition in financial sector; so that the non-rival financial system has no enough motivation to develop, because capital return rate of the sector is less than that in competitive market. Therefore financial interference avoids fulfilling the potential activities and prevents allocating savings to effective investments and hence causes serious problem to the economy.

All interfering policies, laws and formal instructions and informal imposed controls such as interest rate ceilings, credit ceilings, imposing restrictions on directions of credit allocation, capital controls, liquidity ratio requirements, high bank reserve requirements, imposing restrictions on market entry into the financial sector, government ownership and domination of banks

cause financial repression expenditure in India and McKinnon (1991), financial repression and capital productivity in a number of less developed countries confirmed the negative effects of financial repression and prevents the efficient allocation of capital and harm economic growth (Denizer and et al., 1998; Gupta, 2004). Empirical works of Picoso and Culb (1997), financial repression expenditure in India, and that of McKinnon (1988), financial repression and capital productivity in a number of less developed countries confirmed the negative effects of financial repression on financial development and economic growth. However the possible negative effect of financial repression does not necessarily demand the adoption of a laissez-faire system and removal of all regulations and controls. Hellmann, Murdoug and Stiglitz (1997) in their rent-seeking theory stated that financial sector rents can create incentives for banks to effectively monitor their rents over time by monitoring the firms they lend to. This requires government intervention to create a rent margin for banks to ensure their rents over time and reduce bank risks which it can be value-enhancing for the whole economy, but not to, for example, control interest to fix interest rates at relatively low levels.

In Iran and many other developing countries, one of the restrictive factor in national production capacity, is financial repression in investment sphere. Financial intermediates in such countries are faced with much investment and policy restrictions. Interest control policy and mandatory credit allocation system with high inflation rates in developing countries would lead to negative real interest rates which put much pressure on the banking sector and result in very high levels of borrowing, the very fact that is hold true in Iran economy. A similar situation is prevailing in countries such as Venezuela, Saudi Arabia, Algeria and Nigeria where their financial sectors are mainly dominant by government intervention. Unlikely, Indonesia has been released its financial market for several decades and paved the way for private sector investment and growth.

2. Materials and methods

As stated above, the aim of this study is to measure financial repression in selected oil exporting countries. To this end panel data method was applied for the period 1990-2009 and countries including Iran, Saudi Arabia, Venezuela, Nigeria, Mexico and Indonesia. Annual data was extracted from IMF (International Monetary Fund) Government Finance Statistics (GFS) and World Development Indicators Database (WDI).

Before specifying the model applied to measure financial repression, it should be noted that the degree of financial repression in different countries is measured according to the government restrictions imposed on the financial markets. One of the indices measuring the degree of financial repression is the Quinn-Toyoda index which is according to the degree of trade restrictions and capital transfers (Quinn and Inclan, 1997). Another measurement index is capital control and restrictions of private ownership (Alesina and Drzen, 1991). These two indexes encounter some problems. The vast and inclusive government imposed restrictions and implemented instructions are to the extent that it is very difficult and time consuming to measure them. Beside the formal restrictions and instructions, there are informal restrictions and instructions that affect significantly the financial repression and make its measurement so difficult (Battiliossi, 2004).

Beim and Colomonis (2001) in a book titled "Appearance of Capital Markets", surveyed financial repression and defined the relation for measuring financial repression index (FRI) as follows:

$$FRI = a + 50 * FR \quad (1)$$

in which $FR = INT - GOV$ and $a = 50 - b(mean(FR))$, where

$$b = \frac{20}{s.d.(FR)}.$$

In the above relationship *mean* stands for average, *s.d* for standard deviation, GOV for the proportion of mercantile bank debts from government to the proportion of mercantile bank

debts of private sector and INT is the proportion of liquidity volume to the proportion of gross national product.

The parameter FRI has normal distribution with the mean of 50 and standard deviation of 20. For FRI a value between 0-100 is defined that 100 represents the highest degree of financial repression and 0 represents the lowest financial repression.

Based on theoretical principles, Battilossi (2004) introduced a financial repression model using the last methods and the index of Beim and Colominos (2001) to measure the degree of financial repression. To this end he calculated the index using the data of 16 west European countries during 1950-1991. His model is as follows:

$$FRI = a + 50 * FR \quad (2)$$

$$RI_{it} = a + 50FR_{it} \quad (3)$$

$$a = 50 - b(\text{mean}(FR_{it}))$$

$$b = \frac{20}{s.d.(FR)} \quad (4)$$

$$FR_{it} = RR_{it} + GOV_{it} - RIR_{it} - INT_{it} \quad (5)$$

where FRI indicates the financial repression index, RIR real interest rate, RR requirement reserves rate, GOV the ratio of mercantile bank debts from government to mercantile bank debts from private sector and INT is the ratio of liquidity volume to gross national product.

2.2. The determining constituents of financial repression

Considering what has been noted above, in this study the degree (index) of financial repression is measured according to the Battilossi model (2004). Before calculating this index, it is necessary to review the parameters used in this model.

2.2.1. Requirement reserves

One of the standards of financial repression measurement is the ratio of bank reserves to deposits. To some extent, this standard is a determinant of monetary policy instruction. By definition it is the ratio of requirement reserves. Factors such as requirement reserves, may characterize some constituents of financial

development. In countries which their financial system is undeveloped, banks may keep more reserves than the ratio of requirement reserves for responding to liquidity needs (Battilossi, 2004; and Glenn et al. 2002).

2.2.2. Real Interest Rate

A classic mechanism for repression of financial system is that the interest rate be kept under balanced level or be proportionate to inflation rate. Since keeping the interest rate low reduces the government loan expenditures in bank sector, governments which allocate most of their bank credits with legal restrictions to government sector try to keep the interest rate low. According to McKinnon (1973) and Shaw (1973), the credit supply allocated to the supported sectors and specific factories, as well as to the recommended people by political authorities lead to the interest rate to be lower than its balanced level. This kind of interference in financial flow represents a financial repression. The main idea on the back of this index is that controlling nominal interest rate avoids its feedback in contrast to expected inflation alterations. Long duration of negative interest rate is an evidence of strong financial repression (Gupta, 2004, Battilossi 2004).

2.2.3. Financial intermediation

Financial intermediation level is also another standard of financial repression measurement. It is measured by the ratio of $\frac{M_2}{GDP}$. The experimental literature showed that this ratio is generally low in economies facing financial repression, and high otherwise.

2.2.4. Government debts

Government debts to banking system can be as a replacement for measuring government ability in financial interference. This parameter may be defined as the ratio of mercantile banks' debts from government to mercantile banks' debts to private sector is definable. The greater the ratio, the more financial repression it

shows. Government by coding special instructions obliges bank sector to allocate credits to special loaners, central government or general institutions. Therefore, the ratio of allocated credits for government sector to allocated credits for private sector can be defined as a parameter for measuring financial repression. The greater this ratio, the worse the financial repression is (Battilossi, 2004).

2.2.5. Ratio of total presented credits for private sector to gross national product

Since financial repression is usually occurred by allocating credits to government companies, one way to measure it is the degree of allocated credits to private sector. Experimental studies show, presentation of private credits is the priciest activity index of financial intermediates (Glenn et al. 2002).

3. Measurement of financial repression

As mentioned before, the present study tends to measure the financial repression using Battilossi (2004) and Beim and Colomonis (2001) approach in the form of $FR_{it} = RR_{it} + GOV_{it} - RIR_{it} - INT_{it}$ equation. The financial repression has been calculated using panel data for some countries including Iran, Mexico, Nigeria, Saudi Arabia, Indonesia and Venezuela during 1990-2009. The amount of this indicator is ranged between 0 and 100. Zero indicates non-existence of financial repression and hundred refers to the highest level of financial repression. Table 1 and Table 2 show the amount of financial repression in the countries under consideration in the period of the study.

Financial repression in Iran in 1990 was 58.5. After that it had a gentle and almost stable process till 1994. But in 1995 it experienced a high increase to the extent that it reached 75.81. Soon afterwards the index showed a mild decreasing trend during the period leading up to 2009 at 32.2. However, the average financial repression in Iran has almost been close to the average

level (50.2) of financial repression in the selected countries (Table 2 and Diagram 1).

Financial repression in Indonesia between years 1990 to 1997 was almost low. But after 1997 it passed an extreme increase; as from 16.81 in 1997, reached to 96.54 in 2000, but after that it followed the decreasing trend and it reached 48.32 in 2009. Therefore financial repression in Indonesia during 1990 and 1997 was gentle, but after that Indonesia experienced a high financial repression (Table 2 and Diagram 2).

Financial repression in Mexico in 1990 was 68.8. After 1990 it had a gentle trend, as in 1994 it reached 36.4 and after that again it passed an increasing trend, so that in 1996 it was 72.1. After 1996 the country experienced a high level of financial repression. Financial repression have been high during 1990 to 2009 and it reached the highest financial repression in 2000 at 80.9 (Table 2 and Diagram 3).

Financial repression in Nigeria was 53.9 in 1990 and after that it had an increasing trend to reach a high level of 89.8 three years later. Since 1994 the index recorded a moderate decreasing trend to return to 58.76 in 2009. This shows that the financial repression in Nigeria has been at high level between 1990 and 2009 (Table 1 and Diagram 4).

Financial repression in Saudi Arabia was 33.18 in 1990. In 1991 it reached 45.9 and after that it experienced a swinging increasing trend till 2004. The highest financial repression index was recorded in 2003 at 55.70. This indicates that the degree of financial repression was slightly normal in Saudi Arabia during 1990-2009 (Table 1 and Diagram 5).

Financial repression in Venezuela was 56.43 in 1990. Since 1990 to 2003 it showed a moderate diminishing trend to reach 46.4 in 1993, but afterwards it experienced an extreme increasing trend to exceed a level of 84.3 in 1994 and 96.5 in 1995. After this high increasing trend, it came to decrease, but not too much; it was halted at a level of 75.62 in 2009. Thus the results indicate a high financial repression degree in Venezuela (Table 1 and Diagram 6)

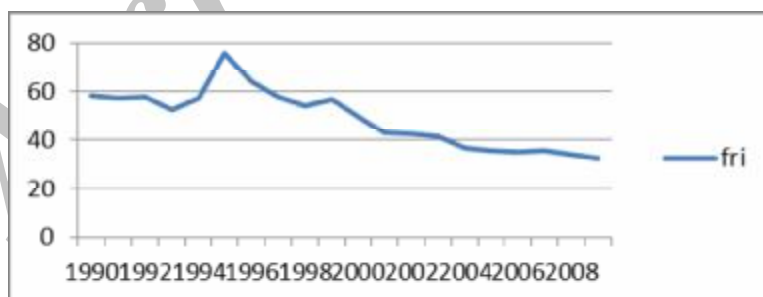
Table 1: financial repression index for different countries, 1990-2009

Year	Country	FRI	Country	FRI	Country	FRI
1990	Venezuela	56.43819	Saudi Arabia	33.18881	Nigeria	53.90951
1991	Venezuela	52.07046	Saudi Arabia	45.9003	Nigeria	59.71479
1992	Venezuela	46.33417	Saudi Arabia	45.66434	Nigeria	69.23087
1993	Venezuela	44.39188	Saudi Arabia	44.88061	Nigeria	89.769
1994	Venezuela	84.36484	Saudi Arabia	43.62015	Nigeria	86.738
1995	Venezuela	96.53078	Saudi Arabia	45.46565	Nigeria	82.62494
1996	Venezuela	98.564	Saudi Arabia	50.21222	Nigeria	66.81879
1997	Venezuela	75.17547	Saudi Arabia	53.48405	Nigeria	53.54989
1998	Venezuela	58.6327	Saudi Arabia	45.56179	Nigeria	50.86902
1999	Venezuela	62.78158	Saudi Arabia	51.26191	Nigeria	62.54085
2000	Venezuela	66.47683	Saudi Arabia	53.96242	Nigeria	65.94125
2001	Venezuela	62.9612	Saudi Arabia	54.37272	Nigeria	59.11328
2002	Venezuela	65.55215	Saudi Arabia	54.00545	Nigeria	63.96543
2003	Venezuela	81.83299	Saudi Arabia	55.72413	Nigeria	57.96
2004	Venezuela	74.05272	Saudi Arabia	46.60844	Nigeria	61.85363
2005	Venezuela	62.80284	Saudi Arabia	38.53629	Nigeria	63.63691
2006	Venezuela	69.19316	Saudi Arabia	37.35332	Nigeria	64.24203
2007	Venezuela	74.26	Saudi Arabia	37.12	Nigeria	59.97
2008	Venezuela	74.96	Saudi Arabia	34.5	Nigeria	59.37
2009	Venezuela	75.62	Saudi Arabia	36	Nigeria	58.76
Average		69.15		45.37		64.53

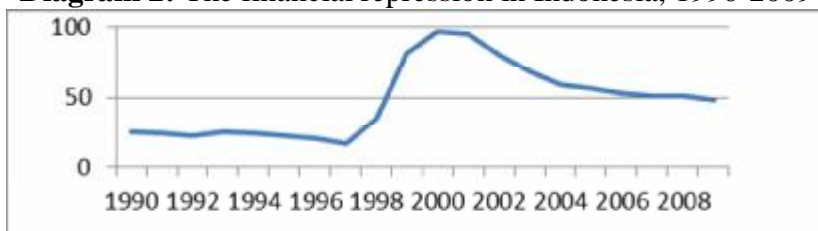
Table 1: continued

Year	Country	FRI	Country	FRI	Country	FRI
1990	Mexico	68.80013	Indonesia	25.53151	Iran	58.50607
1991	Mexico	64.21029	Indonesia	24.37813	Iran	57.18853
1992	Mexico	45.29284	Indonesia	22.22931	Iran	58.00832
1993	Mexico	36.40894	Indonesia	24.99325	Iran	52.80138
1994	Mexico	37.43038	Indonesia	24.35953	Iran	57.49106
1995	Mexico	53.73939	Indonesia	22.20663	Iran	75.81929
1996	Mexico	72.07639	Indonesia	20.21829	Iran	64.3158
1997	Mexico	67.94414	Indonesia	16.81768	Iran	57.83378
1998	Mexico	65.84031	Indonesia	35.3702	Iran	54.27169
1999	Mexico	78.08521	Indonesia	81.3645	Iran	56.69373
2000	Mexico	80.89253	Indonesia	96.5468	Iran	49.78517
2001	Mexico	87.0817	Indonesia	95.41535	Iran	42.98228
2002	Mexico	80.36107	Indonesia	80.86473	Iran	42.28975
2003	Mexico	79.4071	Indonesia	68.85738	Iran	41.25745
2004	Mexico	77.87933	Indonesia	59.14156	Iran	36.58985
2005	Mexico	71.63814	Indonesia	56.41295	Iran	35.45358
2006	Mexico	68.45793	Indonesia	52.9793	Iran	35.22969
2007	Mexico	40.68	Indonesia	51.21	Iran	35.81
2008	Mexico	63	Indonesia	50	Iran	34.05
2009	Mexico	61.21	Indonesia	48	Iran	32.3
Average		65.02		47.84		48.93

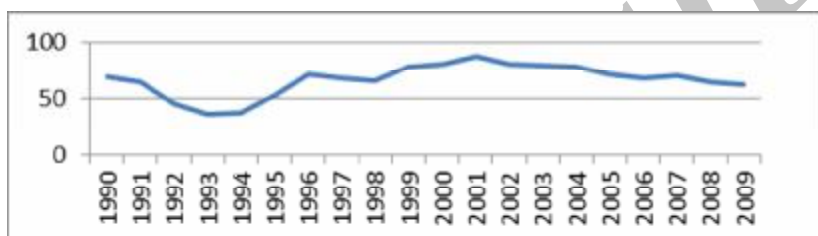
Source: Findings of the Research

Diagram 1: The financial repression in Iran, 1990-2009

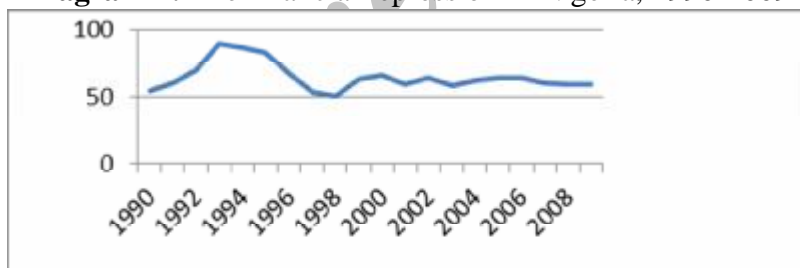
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Diagram 2: The financial repression in Indonesia, 1990-2009

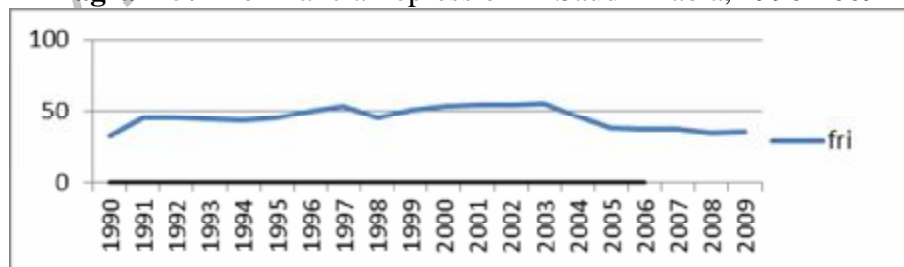
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Diagram 3: The financial repression in Mexico, 1990-2009

Source: Findings of the Research

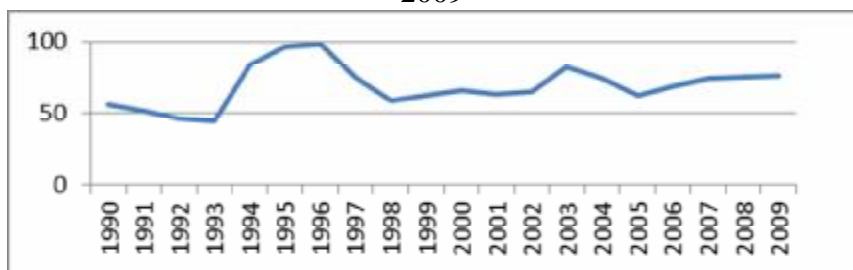
Diagram 4: The financial repression in Nigeria, 1990-2009

Source: Findings of the Research

Diagram 5: The financial repression in Saudi Arabia, 1990-2009

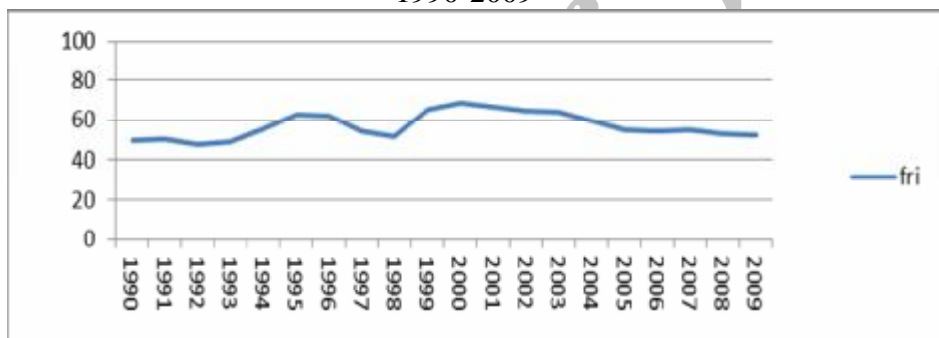
Source: Findings of the Research

Diagram 6: The financial repression in Venezuela, 1990-2009



Source: Findings of the Research

Diagram 7: The average financial repression in the countries studied, 1990-2009



Source: Findings of the Research

Graph (7) shows the trend of financial repression in the studied countries. As it can be seen in the graph, the level of financial repression was about 50 during 1990 to 1993. Afterwards it increased to reach 62, but soon after it dropped to the same level of the beginning at 50 in 1998. During 1999 to 2000 the index went up to record the highest level at 69 in 2000. Eventually it slopes down to reach the 55 in 2009. The findings of the research show that the financial repression in the studied countries has been higher than the mediate level on average.

4. Conclusion

Financial repression refers to the notion that a set of government regulations, laws, and other non-market restrictions preventing the financial intermediaries of an economy from functioning at

their full capacity. The policies that cause financial repression include interest rate ceilings, liquidity ratio requirements, high bank reserve requirements, capital controls and restrictions on market entry into the financial sector, credit ceilings or restrictions on directions of credit allocation, and government ownership or domination of banks. Economists have commonly argued that financial repression prevents the efficient allocation of capital and thereby impairs economic growth.

Most common features of financial system in developing countries, particularly in oil exporting countries, are the almost low degree of institutional diversity, limitation in accessing financial assets and much interference of government officials. Despite the existence of informal ways of financing, mercantile banks still have the prevail role in financing, and depositors mainly lean on bank depositing and use of available instruments in monetary market. The findings of the research indicated that financial repression in Iran has almost been close to the average level of financial repression (50.2) of the studied countries. Financial repression in Indonesia during 1990 and 1997 was mild, but has experience a high financial repression after that period. Financial repression in Mexico from 1990 to 2009 was high, to the extent that it exceeded the 80.9 in 2009. Financial repression in Nigeria was also high during 1990-2009. Degree of financial repression in Saudi Arabia was, overall, less than the average level during 1990-2009. Financial repression in Nigeria is very high and in Venezuela is the highest among the selected countries during the same period.

Reference:

- Alesina, A. & A. Drzen. (1991). Why are Stabilizations Delayed?. *American Economic Review*, 82: 1170-88.
- Battilossi, S. (2004). The Little Reversal Capital Markets and Financial Repression in Western Europe in the Second Half of the 20th Century. Department of Economic History and Institutions Universidad Carlos III Madrid, 1-36.
- Beim, O. & W. Colomino. (2001). *Emerging Financial Markets*. New York: McGraw-Hill
- Denizer, C., R. Desia & N. Gueorguiev. (1998). The Political Economy of Financial Repression in Transition Economies. *World Bank Working Papers*, N. 2030
- Denizer, C., R. Desia & N. Gueorguiev. (1998). The Political Economy of Financial Repression in Transition Economies. *World Bank Working Papers*, N. 2030
- Gupta, R. (2004). Financial Liberalization and Inflationary Dynamics in the Context of Southern European Economies. Working Paper, University of Connecticut.
- Hellmann, T., K. Murdock & J. Stiglitz (1997). Financial Restraint and the Market Enhancing View. forthcoming in *Proceeding of the IEA Round Table Conference: The Institutional Foundation of Economic Development in East Asia*, ed. M. Aoki.
- IMF. (2010). *International Financial Statistics 2010*. Online Version, Washington: International Monetary Fund.
- McKinnon R. I. (1973). *Money and Capital in Economic Development*. Washington DC, The Brooking Institution.
- McKinnon, R. (1973). Money and Finance in Economic Development. Washington: Rookings. *Journal of Applied Economics*, 2:29-59.
- McKinnon, R. (1991). Financial Control in the Transition to a Market Economy. *CEPR Discussion Papers*, No. 1991-07.
- Quinn, D. & C. Inlan. (1997). The Origins of Financial Openness: A Study of Current and Capital Account Liberalization. *American Journal of Political Science*, 41: 771-813.
- Shaw, E.S. (1973). *Financial Deepening in Economic Development*. Oxford University Press, New York.
- World Bank. (2010). *World Development Indicators*. Washington: The World Bank