

**A STUDY ON FINANCIAL REPRESSION IN
THE CONTEXT OF NEPAL**

A Thesis

**Submitted to the Department of Economics, Patan Multiple Campus,
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in Partial Fulfillment of the Requirements of the Degree of**

MASTER OF ARTS

In

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By

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DECLARATION

I hereby declare that the thesis entitled, **“A STUDY ON FINANCIAL REPRESSION IN THE CONTEXT OF NEPAL”** submitted to the Department of Economics, Patan Multiple Campus, is entirely my original work prepared under the guidance and supervision of Dr. Bishnu Prasad Sharma, Professor, Department of Economics, Patan Multiple Campus. I have made due acknowledgements to all the ideas and information borrowed from different sources in the course of writing this thesis. The result of this thesis has not been presented or submitted anywhere else for award of any degree or for any other purpose. No part of the contents of this thesis has ever been published in any form before. I shall be solely responsible if any evidence is found against my declaration.

Bidur Gautam

LETTER OF RECOMMENDATION

This thesis entitled A STUDY ON FINANCIAL REPRESSION IN THE CONTEXT OF NEPAL has been prepared by Mr. BIDUR GAUTAM under my guidance and supervision. I, hereby, recommend it in partial fulfillment of the requirements for the Degree of MASTER of ARTS in ECONOMICS for final examination.

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LETTER OF APPROVAL

We certify that this thesis entitled A STUDY ON FINANCIAL REPRESSION IN THE CONTEXT OF NEPAL submitted by BIDUR GAUTAM to the Department of Economics, Patan Multiple Campus, Tribhuvan University, in partial fulfillment of the requirements for the Degree of MASTERS OF ARTS IN ECONOMICS has been found satisfactory in scope and quality. Therefore, we accept this thesis as a part of the said degree.

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LIST OF ABBREVIATION

FR	:	Financial Repression
GDP	:	Gross Domestic Product
In	:	Inflation
M1	:	Narrow Money Supply
GCPG	:	Government Credit in Percentage of GDP
SDR	:	Savings Deposit Rate
CN	:	Consumption in Percentage of GDP
IM	:	Import in Percentage Of GDP
GNS	:	Gross National Savings
GFCF	:	Gross Fixed capital Formation
DGFCF	:	Change in Gross Fixed capital formation in a Year
RI	:	Real Interest Rate
EFF	:	Efficiency of Investment
EFFP	:	Efficiency of Public Investment
EFFPR	:	Efficiency of Private Investment
CNPR	:	Private Consumption in percentage of GDP
DCP	:	Private Sector Credit in percentage of GDP
DCG	:	Government Credit in percentage of GDP

ABSTRACT

American Economists Ronald McKinnon and Edward Shaw in 1973 labelled the set of well-intended but counterproductive financial policy as financial repression (FR) in relation to slower development of South Korea. Major tools for financially repressive policy are interest control, capital control, foreign exchange control, forced reserve requirement and appropriation of credit. They have huge implication in savings, consumption, and investment and government finance from macroeconomic perspective. For example, the forced interest rate below market clearing rate may increase demand of loan causing imbalance with supply which may bring the uneconomic rationing of loans and may cause inefficiency and dead weight loss. It may distribute the financial welfare from savers to burrowers.

This study tries to study the FR policy tools from the perspective of the development of economic theories and policies globally from different angle: for and against. Also, this study tries to analyze the Nepalese macroeconomic indicators. It mainly focuses in three parts: the effect of FR in government finance, relation of FR to economic growth and finally the channels (saving-investment or volume channel and efficiency channel). Since, the present study is only indicative, simple tools of analysis such as time series plot, correlation, lagged correlation were used.

The findings revealed that the government revenue is positively correlated with FR policy tools. Saving and investment are not very well correlated with FR policy tools. The reason may be the price signal distortion due to capital and foreign exchange control. Efficiency of investment is negatively correlated to FR policy tools such as interest rate and money supply. In the existing scenario, long term growth may have relation to long term growth through efficiency channel.

Almost all of government practices includes some form of FR for the purpose of optimization of revenue, to mitigate the future risk of default and to direct financial resources in the desired directions. As compared to tax policy for the government, the financial policy tools are intricate, complex and less debated, but their effect are long term in nature. So, it is very important that the effect of financial policies should be examined periodically to ensure that they do not create FR and adversely affect saving-investment channels and their efficiencies.

CHAPTER I

INTRODUCTION

1.1 Background of the Study

In the global context, government's role in national economy was revitalized during and after Second World War. The economic revival of war-torn countries was based on the fundamental idea of Keynes based on aggregate demand model on under employment economy. Until 1970s it was normal and obvious that the government would spend hugely for economic growth collecting funds not only through taxes but with implicit revenue collected by inflationary pressure, interest rate ceiling, large levels of credit controlling and capital controls. But later on, the strong critic that questioned long-term sustainability of the existing system gained momentum. This was led by McKinnon (1973) & Shaw (1973).

The term financial repression was coined by the prominent economist Ronald McKinnon and Edward S. Shaw. This is not a particular technical terminology but the name given to the general trait of government to collect the implicit revenue for the purpose of growth. May be because of the unquestioned growth models based on Keynesian ideas were everywhere in the place, they selected this aggressive term to provoke new insight. Since then, their idea and insight has always remained in the mainstream even with other subtle names like and financial liberalization, Financial Deepening among others.

Following the west's economic recovery prescription, most of developing countries have used financial repression to generate revenues for financing public expenditures at time or another. These policies impose implicit taxes on domestic financial activities that satisfy its intertemporal budget constraint as emphasized by Giovannini & de Melo (1991). These policy tools include high reserve requirements for commercial bank, requirement that financial intermediaries buy government debt issued at low interest rates, interest rate ceiling, capital controls, foreign exchange controls.

As financial repression involves discriminatory taxing in financial sectors, it has long been considered as a major impediment to economic growth by McKinnon (1973), Shaw (1973), Goldsmith (1969) and others. The main reasons for these arguments that financially repressive policies harm the economic growth in the long run can be summarized as:

- The low interest rate forced by government discourages the savings in scale that is needed for investment in domestic market.
- Allocative efficiency of government in investing is always less than that of private sector.
- The revenue that comes running to government through financial repression gives government incentive not to reform fiscal and financial inefficiencies to make the economy resilient. For example, many Latin American and Asian countries were quick to fall in crisis when capital control was removed after the episode of boom in public and private borrowing from abroad. Government may fall to vicious cycle of borrowing from abroad due to its inefficient spending habits and financial incredibility.

In Nepalese context, the country is also in the path of financial development. There is provision of capital control and foreign exchange control but domestically there are functioning financial and capital market. Nepal Bank Limited was established in 1937 as a first bank in Nepal. Then Nepal Rastra Bank was established as central bank in 1956. Another Bank was started in public private partnership in 1966.

Until mid-1980s Nepal's financial market was small and very much under the government control writes. Financial liberalization in Nepal started in 1984 in major way by allowing the commercial banks from private sectors into operation by amending the Commercial bank act in 1984. In 1989 interest rate was deregulated to encourage competition among the banks. Security Exchange act was brought in 1993 and the floor trading started in 1994.

After 1990's successful peoples' movement, Nepal's economic landscape also changed. Previously government run industries were privatized. Sectors such as manufacturing,

education, health, transportation were soon started to be run by private sectors. These transformed real markets now gave boost to development in financial sectors; the number of banks, their branches are ever increasing. So, to study about the basic forces that remain in financial system of the country is very important.

1.2 Statement of the Problem

Nepal being a developing country needs huge investment for a very long time to come to fulfill its aspirations. Our investment should be massive both in quality and quantity.

Today, the world is a global village. To have a country in an aspiring, prosperous position is to have it in the global context. Isolation and one tier solution such as foreign grant, remittance, will not solve the problem the problem of long term economic growth. To have aspiring, prosperous position in global context, any country should have robust, efficient, non-discriminatory, productive markets. Nepal's import – export ratio is just about 17 percent. Almost all foreign currency needed for an economy comes from remittances which is about 30 percent of GDP. The resiliency and quality of savings, and investment is impossible without participation of private people and firms (small and large) in the economy. This is possible only in efficient, transparent, efficient market condition. Imagination of efficient and functioning real markets are not possible under the watch of discriminatory, repressive financial markets.

Therefore, the motivation of this research is to study the positive impact of financial liberalizations. It also intends to study about the scenario of still existing financial policy tools that are repressive and discriminatory and their impact in the economy.

1.3 Research Questions

The study specifically tries to answer the following questions

- a) What is the effect of financial repression in the economy of Nepal?
- b) What are the channels that link financial repression and economic performance of Nepal?

1.4 Objectives of the Study

The general objectives of the study is to examine the effect of financial repression in the economy, if any and to analyze its channels.

The specific objectives of the study are as follows:

- a) To examine the effect of financial repression in Nepalese economy.
- b) To analyse the channels of financial repression on Nepalese economy

1.5 Significance of Study

Financial systems are critical for any economy, but for normal people it is little difficult to understand the policy implication in comparison to tax policy. Financial policy and monetary policy are as important as fiscal policy. Especially their effect comes in society in the form of interest rate, inflation and debt scenario. According to today's economic understanding these both indices have relation to economic growth. So, there should be proper insight about financial repression, financial development and their impact in national economy. This study helps to bridge this knowledge gap necessary for policy making.

1.6 Limitation of the Study

The Study aims to provide the stylized perception of the phenomenon of financial repression, its process and the policy implications. It also examines different theoretical models from the history of economic thoughts to present day insight. This study evaluates the ideas from different point of views for and against. It also tries to evaluates the economic variables of our country Nepal and tries to find any relation if there exist. Although we may be able to understand the essence of previous literature and their policy implications, it would not be possible for this study to establish the precise cause and effect relationship between the variables. For instance, when analyzing the effect of interest rate in GDP growth it may not be possible to analyses the shadow cost effect of capital control.

1.7 Outline of the Study

This thesis contains five chapters: Introduction, Review of Literature, Research Methodology, Data analysis and presentation and conclusion.

Chapter 1 introduces the basic scope of financial repression. Chapter 2 is the review of literature in which many articles from different perspectives are reviewed. This chapter deals with the development of the insight on interaction of financial policy and economic performance. The empirical articulation on the topic from different articles were studied. The articles both in support and critics are considered in the study.

Chapter 3 deals with research methodology. In this chapter we have inquired the interaction mechanism between variables of interest. These studies were based on different influential articles in the scene of study of financial economics.

Chapter 4 deals with the study of the data, analysis and presentation. Secondary data were used from online publications of Nepal Rastra Bank, Ministry of Finance. Correlation, aged correlation and trend charts are used for analysis. R-language is used for analysis and presentation. Chapter 5 summarizes and concludes the study.

CHAPTER II

REVIEW OF LITERATURE

2.1 Introduction

This chapter examines the various literature available on the scope of financial repression and financial development. These literatures were focused on impact of financial repression tools such as forced interest rate, compulsory government debt instruments, inflation and other financial development indices and their impact on economy. The section that follows systematically examines the literature and the gap in existing literature

2.2 Review of the Literature from a Theoretical Perspective

This section discusses the major insights on financial economics based on literature for a comparative analysis.

2.2.1 Classical Economics

The foundation of the school of thought hinges upon the basic philosophy of Adam Smith on free markets based on competing forces and undisturbed equilibrium. Smith (1776) mentioned about the invisible hands to describe the dynamic equilibrium of prices due to the supply and demand. He also mentioned the loan as the productive capital stock that is borrowed and interest as the portion of the produced capital stock. He says interest falls as the quantity of stocks to be lent increases.

Although he had some inconsistencies in his financial vision but his repeated theme of the free market, even in financial system we can generalize the free market for savings and loan can be generalized as follows.

The savers want to optimize the return on savings and the borrowers want to optimize the return on investment while the bank wants to optimize its profit. Optimized equilibrium will be primarily based on an interaction of the interest of three economic agent in and economy.

Variables of interest of savers (lender)

1. Interest rate on savings
2. Inflation

Variables of interest of borrowers

1. Interest on loans
2. Return on investments
3. Risk of Projects

Variables of interest financial intermediaries

1. Interest paid on deposits
2. Interest Charged on loans
3. Processing cost
4. Risk of projects

2.2.2 Irving Fisher

Fisher (1930) delved into the financial behavior of the basic economic agent i.e., common people on their consumption psychology. According to him in civilized society, man works during his productive age, earns, consumes and saves. He saves for his old age. These dynamics of consumption, saving and expected consumption in his later age is largely affected by the return for his saving. The consumption behavior is actually intertemporal in nature.

Fisher's two period consumption model is a foundation for the study of financial extraction of the government in an economy by manipulating the real interest rate. Unlike Keynesian consumption hypothesis which says that the consumption only depends upon the current income; Fisher's two period consumption models tells us that the consumer always considers the future consumption while consuming in present. To make the model simple Irving fisher assumed that any consumer has two periods. In general, first period is for consuming and saving and second period is consuming the whole of wealth he generated in life time. Here interest rate plays central role in this model.

Model Assumptions

1. N- identical Customers
2. Each consumer lives for two periods
3. Consumer receives exogenous income
4. Consumer receives income Y in first period and Y' in second period
5. Consumer consumes C in first period and C' in second period
6. Consumer saves S in first period and S' in second period

7. Consumer pays tax T in first period and T' in second period
8. Consumer receives and pays rate r as interest

Borrowing / lending

1. Borrowing and lending is done through single instrument; one period bond that yields at interest rate r
2. Consumer budget constraint in first period is

$$C + S = Y - T \dots\dots\dots(a)$$

Where,

C = Consumption

S = savings

Y = Income

T = Taxes

3. Consumers Budget Constraint in Second Period

$$C' = (1 + r)S + Y' - T' \dots\dots\dots(b)$$

If $S < 0$, then consumer pays back both interest and principle in second period

If $S > 0$, then consumer receives the promised return on her savings in second period.

Consumer's problem

Max C, C', S V(C,C')

Subjected to

$$C + S = Y - T \quad \&$$

$$C' = (1 + r)S + Y' - T'$$

Replacing S from Budget constraint of time period 1 to Budget constraint of time period 2

$$C + \frac{C'}{1+r} = Y + \frac{Y'}{1+r} - \left(T + \frac{T'}{1+r}\right) \dots\dots\dots (c)$$

This budget constraint is called consumers life time budget constraint. It implies that present value of life time consumption equals present value of life time disposable income

Income

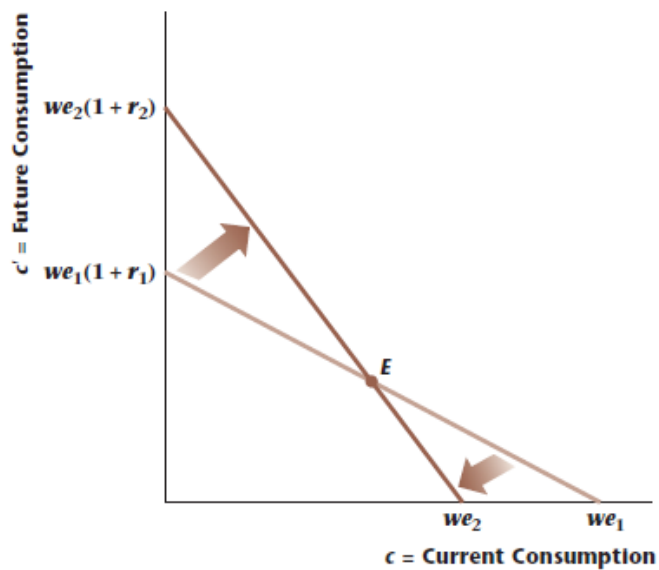
Rearranging equation (c)

$$C' = - (1 + r) C + we (1 + r)$$

Where,

$$We = \text{life time wealth} = Y + \frac{Y'}{1+r} - \left(T + \frac{T'}{1+r}\right) \dots\dots\dots(d)$$

Fig. 1: Life-time intertemporal budget line.



2.2.3 Great Depression, War and Post-war Period (up to early 1960s)

This period of time was characterized with the huge financial stress on western governments due to great depression followed by the two world wars. Main agenda of all the governments was to raise resource for war, and after war to appropriate the resources to rebuild the European countries & Japan. Keynes's Perspective on solving the resource problem for the war & resource appropriation for rebuilding the economy was dominant in this time.

According to Keynes (1937 & 1940) efficient market equilibrium is impractical and unreal. Same was the case for financial markets. Capital was mainly used for two reasons: productive & speculative purposes. According to him, the Great Depression was caused due to the forces of second purpose; the speculative one. The policy prescription was to place the government in central position of economy, even in financial markets to help to regulate the aggregate demand. The financial policy tools for the governments came as

1. Capital Control
2. Exchange Control (Bretton wood, 1940)
3. Sustained and Convergent Inflationary pressures.
4. Interest Rate Control.

His Idea was mainly a General macroeconomic insight of underutilized economic capacity with underemployment. The Government role was to identify it and increase the demand by fiscal measures, financial guidance, direction and appropriation. Growth models of Harrod (1939) & Domar (1946) also shared Keynes view of Aggregate demand model on economy operating in under capacity and underemployed.

It was Tobin who further developed the technical model to justify the Keynes's financial view. According to Tobin (1965), Money is a way to save value for future consumption. In absence of other alternative for this purpose, saving does not necessarily translates to investment and does not serves its own purpose. This basic insight has a critical implication. Like other factors of production; capital has diminishing yields for any given equilibrium. Therefore, it's not just the money and capital but the portfolio in which the capital is saved is important. Furthermore, he argued that the money is not perfectly neutral for an economy in long term. Such portfolio between money, capital and other assets is derived by the community. As markets are not perfect and prices are not unbiased the whole system needs some regulation. Thus, his theory provided the solid technical foundation for the role of government in financial markets.

2.2.4 Causality on Finance and Growth (1960s)

In this frame of time, the economists worked in the idea of causality between finance and growth. Gerschenkron (1962) and Patrick (1966) told that there are two patterns in which finance and growth are related.

1. Supply Leading (Early stage)

Especially in early period of economic growth entrepreneurs are enabled for business through the credit services they get in financial market.

2. Demand Following (Developed stage)

Growth induces the demand for financial services. As the real sector keeps on increasing the transactions between economic agents keeps on increasing in terms of credit, investment, savings etc. Financial intermediaries provide the services by transferring the capital from conventional stock of wealth to growing sectors. For both of the parties (savers and investors), return should be guaranteed for proper

market allocation. Cameron (1967) also put similar argument that financial system can be both growth inducing and growth induced.

2.2.5 McKinnon, Shaw Paradigm (1970s)

This was the time when western economies were struggling with severe inflationary pressure and sluggish growth induced by oil shock. Some economist argued that the economic problem may have arisen due to the government's distortionary role in economy for long period of time. Economist Ronald McKinnon coined the term "Financial repression" for the set of policy which made government finance easy but distorted economy creating inflation and stagnation.

By studying developing economies throughout the world McKinnon (1973) argued that government should just act to stabilize financial markets through consumption policy and through fiscal measures (if needed). On the other hand, Shaw (1973), by studying developed economies argued that the saving investment phenomenon should be allowed to operate in market clearing arrangement. Savers should be provided incentive through interest rate to have enough and reliable accumulation of fund to invest. They both argued that for long term growth prospect saving and investment dynamics should not be distorted by forcing interest rate ceilings in deposits and loan. Forcing ceilings on deposit rate transfers the incentive from savers to financial intermediaries in the form of profit making by the whole financial industry just as rentier. Similarly forcing ceilings on loan makes the credit cheap which in turn drives the demand of loan higher. In the environment of unfulfilled demand for credit, the bank may provide loan on non-economic selection such as rationing, political connection, corruption etc. Both of the phenomenon reduces the allocative efficiency of the finance hence hindering growth and increasing financial risks.

Moreover, they argued that with those financial repressory policy government creates seignorage in the form of excessive tax from bank, inflationary tax and cheap credit to fulfill its fiscal ambition by hindering long term growth prospect.

2.2.6 Critics of Liberalization (1980s)

In this phase many articles came from neo – Keynesian School. Stieglitz (1981) criticized the idea of high interest rate on basis of existing Keynesian arguments. His

new research mainly focused on market failures on financial market. He argued increasing interest rate contributes in market failure mainly in three ways. Adverse selection effect: Interest rate in itself can be taken as a risk signal as it increases the cost of project. Borrower with risk averse tendency will not be selected due to their demand of low interest rate.

Incentive Effect: It gives incentive only to already wealthy and risk loving investor. If we assume decreasing absolute risk aversion is directly proportional to the wealth endowment, higher interest rate will decrease the participation in economy. Theory of collateral limited liability: He also Argued that even if bank goes for collateral policy to reduce risk, only a people and firm with huge wealth endowment goes to demand credit which may itself a signal of their previous high-risk projects. Effectively the collateral provision may not address the risk.

All these reasons may give rise the environment of decreasing no. of credits, increasing the size of credit thereby increasing the risk of non- repayment inducing economic loss of the country and finally financial crash. He criticized the liberal thinkers on their understanding of price. He Says people think prices are perfect signal due to assumption of price being free of sorting and incentive effect but in reality, they are not.

Similarly, according to other economist such as Taylor (1983), Weijnbergen (1983) when interest rate increases people come to banks from informal sectors. With the given reserve requirements, the cost of credit further increases and quantity of financial intermediation decreases. It may also increase the propensity to save decreasing the scale of industries and hence triggering the cost push inflation. But basics for these argument lies on the assumption of more efficient informal sectors whose relevance can be argued in this age of complex and deep way of acquiring knowledge and applying these to business. This strand of though can be summarized as the rising risk with increasing interest rate demands more risk assessment which may be costly for bank. This creates incentive for bank to decrease the no. of loan and have selection bias which ultimately creates loss in economy, increases financial risk.

2.2.7 Endogenous Theory of Finance & Growth (1990s)

These school of thought were more near to liberalization doctrines. They tackled the Keynesian view of decreasing marginal returns of capital for an equilibrium thereby requiring the portfolio set by community effectively government having huge role in it. Romer (1986) and Romer (1990) gave different perspective through his theoretical and empirical research which says Capital if invested in knowledge, technology and ideas can have never ending increasing marginal productivity. This was a fresh new air in growth theory. Previous growth theories would predict Economies with higher population would have higher growth prospect because as capital would have diminishing marginal productivity over an equilibrium therefore the population will be critical. Against these arguments he presents evidence of The Netherlands, UK, USA has hugely different population size but have maintained highest GDP/man-hour growth for centuries to show that if invested properly, capital can have increasing marginal productivity. He presents highly optimistic view with the fact that very few proportion of the population in any economy is now in Research & Development for science, technology and ideas. This fact can have a very profound impact in future global economy. At the same time he presents the evidence of how Private Corporation's R&D fuelling their growth over long period of time.

According to Bancevenga & Smith (1991) a random person with expected liquidity needs in near future either saves his capital in liquid but non-productive or non-liquid, highly productive but risky assets. Properly functioning banking system can suffice the liquidity needs of needy savers through correct prediction (due to law of large numbers) as proportion of total deposits and invest the remaining in productive and safe assets giving good yield to savers and avoiding the self-financing on assets thereby reducing financial risk.

Similarly, according to Barthelme & Varoudakis (1996) formal competitive financial intermediaries yield good return to savers, they gain knowledge from repetitive "learning by doing" which in long term can select productive and less risky investment options which he says is more better option than to self-invest.

Fig. 2 : Channels of Keynesian-Tobin approach

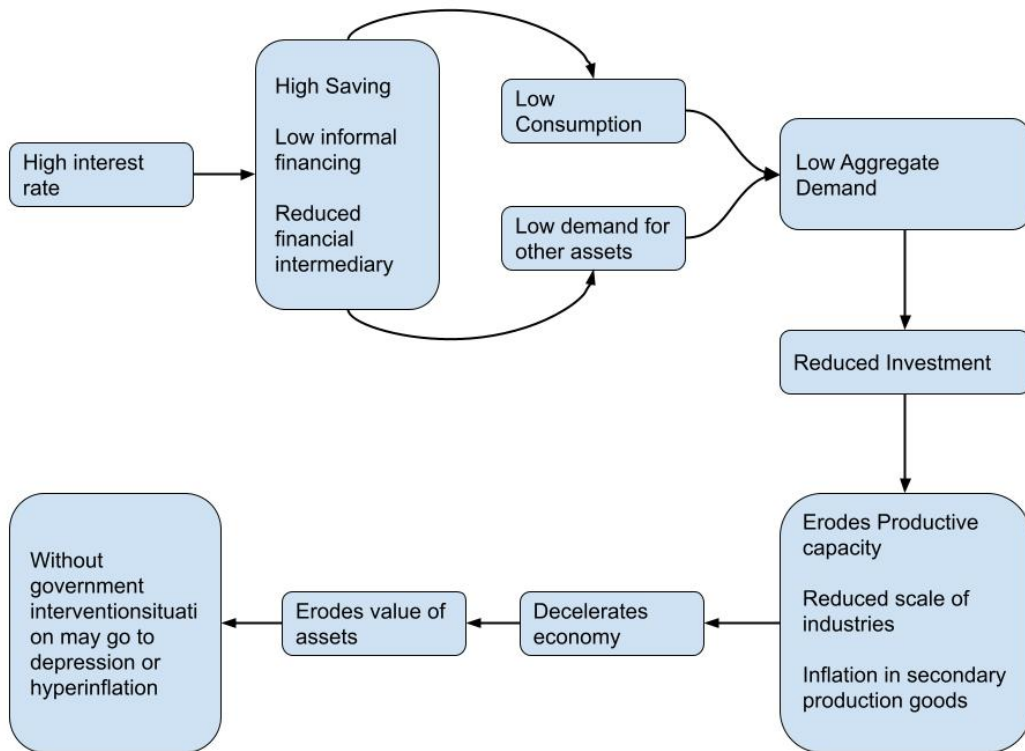
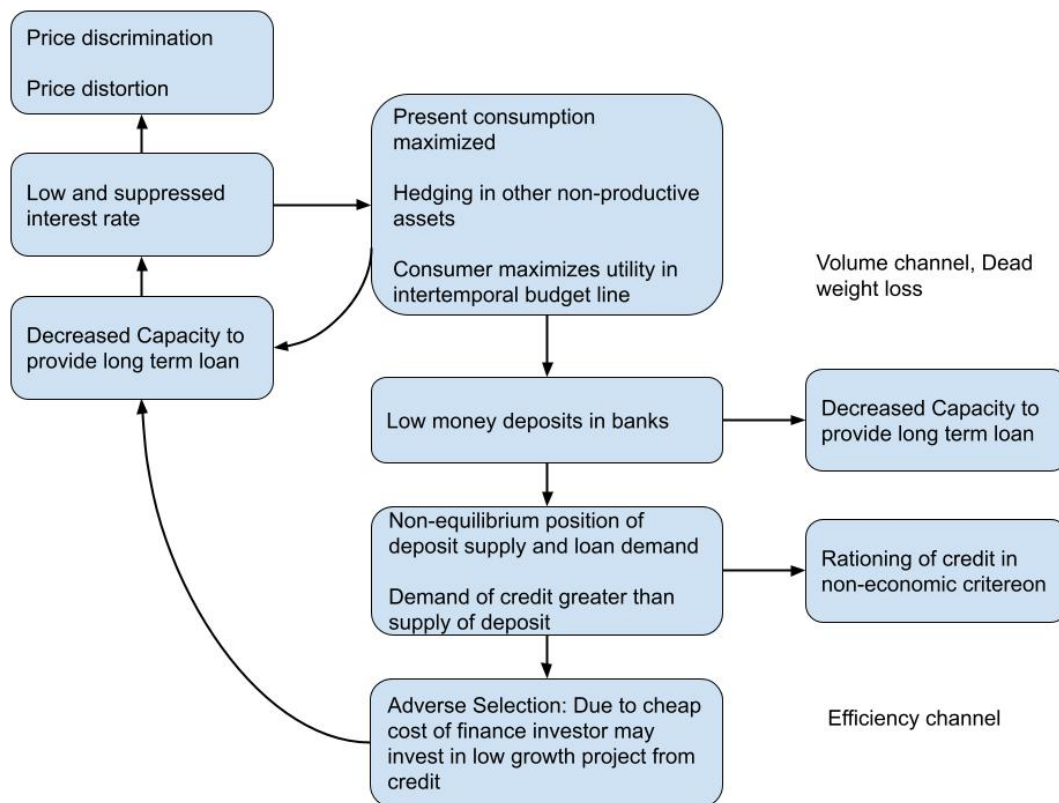


Fig 3 : Mckinnon-Shaw Approach



Above in the figure 2.2 and 2.3 Keynesian –Tobin approach and McKinnon-Shaw Approach are shown for relation between financial system and economy

2.3 Financial Repression and Government Finance

As from previous discussion and arguments we can say that the intention of financial repression tools is to bring the control of the allocation and mobilization of financial resources more towards the government scope that would otherwise not be the same without those policies.

Homer & Sylla(1996) argue that main reason for origin of central bank (England and France) was to extract the fund through savers and consumers for the war and other dire fiscal needs.

The Financial repression policies help government to extract stealth revenue and seigniorage and bring financial stability. They engage in achieving this financial cushion through mainly four aspects.

1. Through Capital & foreign exchange control, government guarantees its foreign currency needs through rate control and volume control.
2. Forced low interest rate reduces the required interest payment of government.
3. Negative real interest rate erodes debt to GDP ratio which behaves like a tax to savers.
4. Due to above mentioned provisions government makes it easy to take loans from domestic market in forced interest rate and can exchange it in foreign currency in its own rate which is a very appealing existing condition for fiscally ambitious government.

But in national economy it crowds out the private investment and can reduce GDP. The stealth tax flows from savers to government in form of difference of ex-ante market interest rate & forced interest rate. (Giovannini, de Melo 1991) on their paper on research of Brazilian and Mexican economy found the negative correlation between FR policies and national income. They estimated the implicit revenue extracted from government to be 2 percent of GDP and 9 percent of government revenue. They argue that if government has no constraint in tax administration, then this form of revenue does not optimize the economy, instead the fiscal demand can be mitigated by tax revenue. But during the crisis moment if fiscal demand of government is very high and

critical then financial repression tool can act as optimal tax policy in form of cheap interest and forced selling of debt instruments to the bank. In long run it also safeguards the probability of not defaulting.

According to Chari et al., (2020) financial repression policies are adopted to save the ex-post cost of default but at the expense of ex-ante crowding cost. If the government is committed to its debt repayment, then financial repression policies are not optimal. Such savings and public investment can be achieved through the Ramsey effect from the well-designed tax regime. But if government is not committing and have tendency of procrastination, then to avoid default and to smooth tax, financially repressive policies can be optimal. They argue with their model that if the sum of ex-post cost of default and tax smooth gain exceed the ex-ante crowding out cost of an economy then FR policies are optimal.

Financial repression policies are costly way of purchasing the government credibility of not defaulting. But Financial Repression can be optimal when governments has to issue unusually large amount of domestic debts in critical situations such as war, natural disasters and during sudden stop of foreign lending.

Reinhart & Sbrancia (2015) argue that financially repressive policies combined with sustained dosage of inflation helps to liquidate debt. According to them, major economies US, UK, Australia, and Italy during the period of 1945-1980; about half of that period experienced negative real interest rate. This helped them to repay their loan and rebuild their infrastructures. They estimated the annual debt liquidation to be about 3-5 percent of GDP during this period.

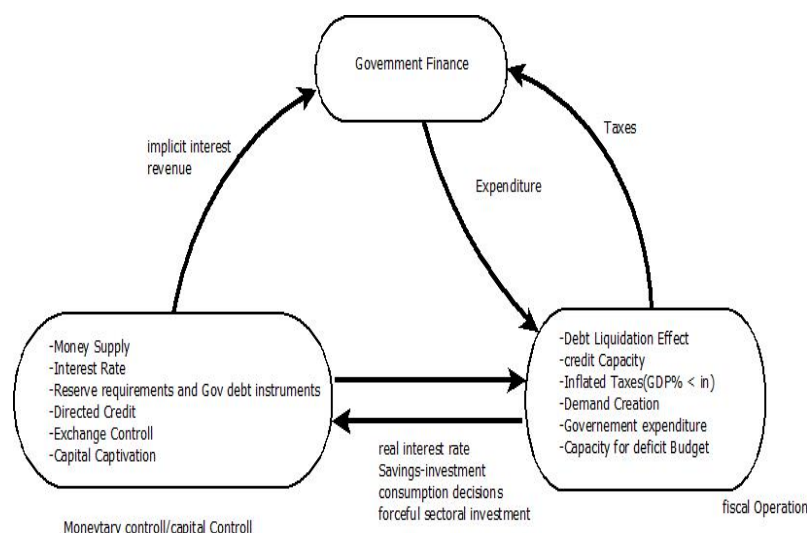
According to Reit (2018) whenever there is huge government debt financial repression policy has been deployed successfully to repay. According to him this can be seen in the historically high interest rate during 1980s after debt repayment of western countries and historical low in 2016 after huge fiscal activity to contain the recession.

The other tool for government for FR initiative is to manipulate the pension fund. For its fiscal need government mobilizes the pension funds. For example, in our country we hear a lot of news about lending from pension funds to the government corporations.

(Davis et. al, 2021) argues that mobilizing the pension fund temporarily during crisis are less harmful than long – term engagement. According to him; to mitigate the crowding out cost such investment should be invested in inclusive sector and should be aligned well with economic, social and governance aspects. The other reason for government for financial repression policy is to solve the moral hazard problem in banking by holding some proportion of the saving deposits in form of relatively safe assets.

Due to all above mentioned incentives to the government financial system, there is difficulty in reforming these repressive policies because government would feel in difficult position to sacrifice already earning revenue for future and uncertain gain. Also due to this complacency actually they lack systems and institution for the reform. (Kletzer & Kohli, 2001) argue that this fiscal importance of the Financial repression due to seignorage and implicit taxation of financial intermediation pose a challenge for financial reform and development.

Fig 4: Interaction between Financial repression, Government Finance.



Above figure 2.4 Shows the general formulation of interaction between government finances, monetary control and fiscal implication of FR policies as explained in Mckinnon-Shaw school of thought.

2.4 Empirical Review of Literature

Although there is not adequate literature on empirical relations between FR variables, long term growth prospect and government finance in national context, there are plenty

in international journals and publications. Those researches have shown that there is empirical relationship between FR variables such as inflation, real interest rate and growth indicators such as growth rate and growth channel indicators such as GFCF, long- term GDP growth. Many of these papers have argued and put forward the evidence between FR policy tools and government finance indicators such as revenue and government credit.

Kamal (2012) analysed the FR variables data from African, Latin-American and South –East Asian countries within the period of 1970-2002. The variables like ratio of currency outside bank to GDP, ratio of broad money supply to GDP and ratio of Deposits in Bank to GDP were studied in relationship with growth variables. He found that when FR variables are inversely related to growth in less developed countries.

Kletzer & Kohli (2001) presented their theoretical study on relation between payment crisis, capital control, exchange control and government finance. Mathematically they showed that exchange rate peg without capital convertibility may bring payment crisis. They also presented the mathematical model showing the implicit revenue created by government via FR tools such as control of exchange rate, interest rate etc. They also showed empirically that government creates implicit revenue from FR tools which ultimately becomes fiscally imperative.

King & Levine (1993) in their seminal paper developed set of stylized formulations about financial structures and economic growth. They developed stylized models and channels to describe the important FR indicators such as credit ratios to GDP (private and public), CRR and their relationship to the growth and growth channels such as GDP and GFCF. Their empirical findings showed positive relation between financial development and growth indicators and channels such as GDP and GFCF. They also showed that present level of financial development and financial repression can predict long term growth. According to them high level of financial development and low level of financial repression scenario in present can predict future growth and physical capital accumulation for 10-30 years of time.

Haslag (2000) studied empirical relationship between FR tools and economic growth, relationship between financial repression and financial development. They also

systematically assessed the role of financial repression by merging relevant literatures on relationship of monetary policy, economic development and economic growth. They found that financial repression inversely related to financial development. They also found that sustained and high degree of inflation seriously impedes long term economic growth prospects.

Fry (1980) evaluated relationship between repression variables and growth in Portugal and Turkey. He used the indicators such as Savings, GNP, Real interest rate. He found that FR variables are negatively related to growth and savings. Similarly, again, according to Fry (1995) he broadened his study in 12 Asian countries and found the same relationship between Financial Repression and Growth.

Reinhart & Sabancia (2015) estimated the debt liquidation effect of FR through interest rate and inflation channel. They estimated that suppression resulted in extraction of implicit interest revenue of 3 to 4 percent of GDP on average in the period of 1945 to 1980. The effect can be massive as it can accumulate 30 to 40 percent of GDP even without compounding in a time period of decade.

Riet (2018) analysed the time series data of the Eurozone countries and estimated the interest cost scenario of governments for the period of 1995 to 2016 and found that low interest rate helped to extract more implicit revenue. In those periods he estimated that due to sustained decreasing interest rate (from 8.5 percent to 2.5 percent) decreased the interest repayment from 5.5 percent of GDP in 1995 to 2.3 percent of GDP in 2016. According to him governments use the FR tools as a fiscal insurance to achieve its control of allocation and social welfare.

But in context to Nepal the research till now is too superficial and rudimentary. Shrestha (2005) presents that financial development is positively related to no. of Banks and credit to deposit ratio. But Financial Development is not related to economic development. The reasons for his conclusion may be overlooking the detailed properties of financial economics and dynamics in the channel between and finance and growth.

2.4 Identification of Research Gap

Some paper reviewed in the above section deals with theoretical aspect and some deal with empirical research in other countries.

In theoretical aspect although many papers have accepted or denied the negative effect of FR policy, some economist are lately analyzing these properties in a neutral manner. But still, there are various views reconciling these opposing ideas.

Especially in developing countries, the economy may be in a transition phase from close to open. So, each government formulates these repressory policies to optimize their implicit revenue. Although the ultimate beneficiary may be the government's finance, for policy recommendation, each economic system should be studied in detail to make a balance between the free, functioning financial markets and sustainable government finance and macroeconomic stability.

In the context of Nepal, very few studies have been conducted in the relation with between repressory policy, government finance and economic growth. As markets cannot mature overnight. So for detailed and incremental positive policies, detailed study should be done periodically. So, both aspects of the research, theoretical and empirical are of great importance in context of Nepal. This study aims to fill up this gap.

CHAPTER III

RESEARCH METHODOLOGY

3.1. Introduction

In general, research method is a logical and systematic inquiry and analysis of relevant information for any research Project. Stiglitz says very rightly that the discipline of economics studies the social problem of choices from scientific viewpoint. Therefore any economic research method should be able to observe the facts and trends very carefully and equally be able to interpret those trends in relevance with human behavior and choices in certain or whole aspects of the economy.

This chapter includes the conceptual framework, research design, sources of data and, tools and techniques of analysis.

3.2. Conceptual Framework

The main idea about the financial repression basically originates from the law of consumption and savings, which can be easily said is the function of interest rate and income. This saving in macroeconomic environment takes the form of Gross National Saving. In this Saving – Investment model, deposit interest rate and inflation play a huge role.

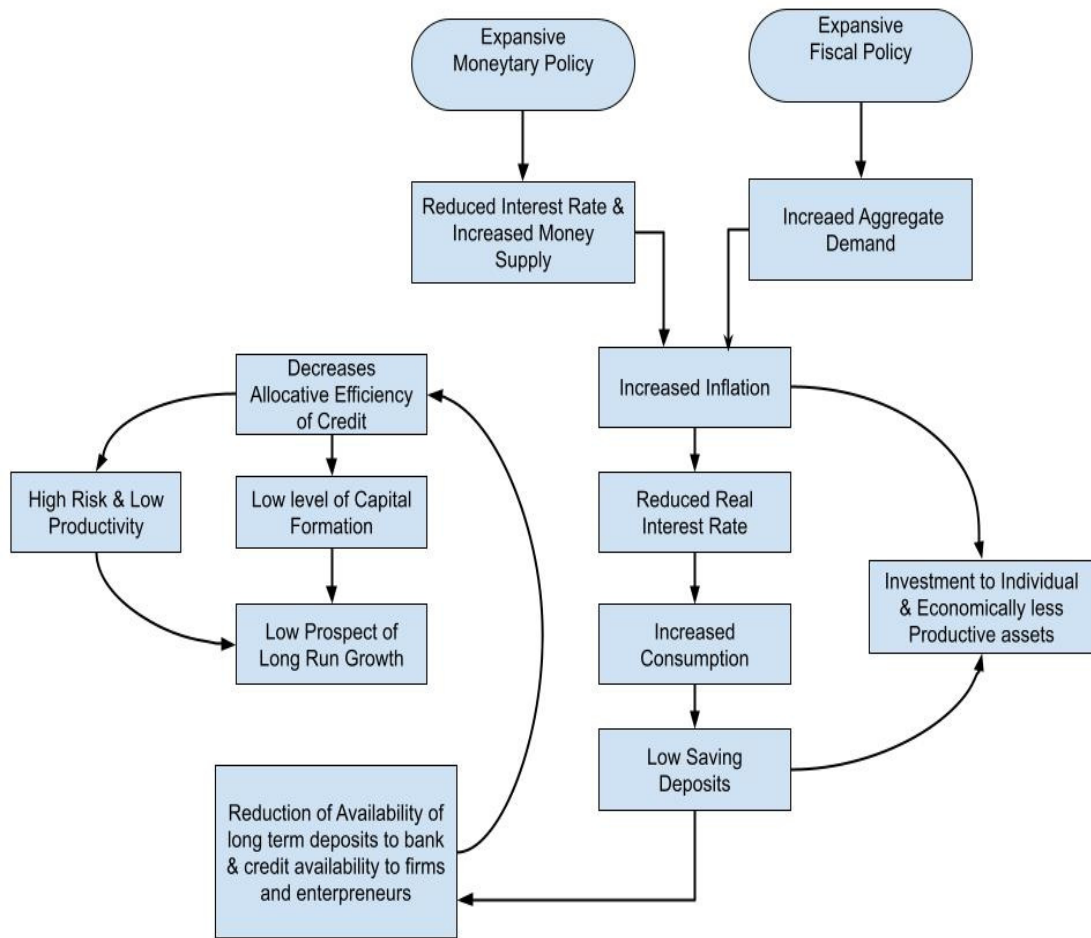
If any private economic agent perceives that he will get far less real return from depositing in bank through repressed interest rate, for the purpose of multiplying his capital; he goes for assets with more return like land, house which may not be always maximizing the required growth of the country leaving other essential growth sector underfinanced. Financial sector will be more volatile, cyclical. The price signal will be distorted. At some instant there will be more money in bank and in other instant there will be scarcity of fund. Banks will not able to maintain the long-term commitment to lenders due to the unpredictable nature of endless, heated speculation in sectors that may not be the collective priority of nation.

In the other hand, if an individual gets reasonable, market clearing interest return from the bank, he goes for long-term saving deposit in the Bank. Then the bank with the abundant loanable fund invests in growth sector which in developing country is lumpy

and indivisible in nature. This helps in capital formation and opening other secondary sectors of growth. In the process, the country's long term growth prospect will be high. Due to the efficient market operation in financial sector, the country will attract domestic investment. The welfare generated from the growth will be distributed through the efficient financial markets to both borrowers (entrepreneurs & firms), and lenders (savers) the financial system will be more robust, stable, flexible and self-correcting.

From the policy viewpoint, the income may not be influenced directly especially in underdeveloped low-income countries. The assumption is that no matter how much ambitious the government is, due to the low level of integration of sectors and low level of predictability of the economy, government policy may not directly affect the real income. Government, with its budgetary expenses can increase short term demand which may bring inflation in the economy. In monetary sector financial repression enforces the interest rate, mandatory debt instruments, reserve requirement, and capital control. The reserve requirement can be considered as liquidity smoothing and stabilizing tool. Capital control may have deep implication in financial system but for the underdeveloped country like us for short and medium term it may also be considered as capital retaining policy for nation. Interest rate repression can be considered a very conscious, voluntary and targeted policy to achieve economical objective. Therefore, this study has inquired the effect of interest rate, inflation in the process of investment, the efficiency of investment and finally in the economic growth. The effect of interest rate is assumed to be transferred via channels of credit volume, sectors of credit (private vs government), and capital formation. According to King & Levine (1993) the measures of financial structure can effectively be decomposed into (i) rate of investment and (ii) the efficiency of investment. Lately in this strand of research not only volume channel is found to be affected by FR policies but the efficiency channel is also adversely affected. Jafarov et al. (2020) says by distorting market incentives and signal financial repression induces loss from inefficiencies. This whole Process is shown in the flow-diagram below:

Fig 5: Variable Interactions Framework



3.3. Research Design

This research is designed to check the effect of policy variables in outcome (growth) variables. Furthermore, some of transmission variable will also be checked.

Policy Variables

- Interest Rate
- Real Interest Rate
- Inflation
- Money Supply
- Government vs Private credit

Channel Variables

- Credit Ratios (Sector)
- Capital formation (Sector)

- National Saving
- Consumption
- Investment Efficiency
- Import

Government Finance Variables

Outcome Variable

- GDP

3.4. Sources of Data

The time series data required were obtained from the time series database from 1975 to 2020 Macroeconomic dashboard of Nepal government maintained by ministry of finance. Furthermore, Data from The World Bank, and Asian Development Bank database was also checked to examine the relevancy and consistency. As some of the metrics such as savings deposit rate, real GDP were available for the years only after 2000, the same are used for our analysis.

3.5. Techniques of Data Analysis

Due to the complex nature of interaction between the variables, to make the research simple, stylized and basic, descriptive and exploratory research method will be used. Relation will be shown through trend lines and correlation. There is always a lag between policy formulation and its effect to be visible, to check this we will check lagged correlation to check the transmission of effect.

Variables that gives positive signal of financial repression such as interest rate, inflation, money supply are expected to be negatively correlated with the variable that gives positive signal to saving - investment channel such as Gross Savings And Investment. Similarly, those same FR variables are expected to be positively correlated with variables that signals the efficiency of investment. Also, Government revenue expected to be positively correlated to FR variables.

For calculation, tabulation and figure presentation Excel program and R language were used.

CHAPTER IV

DATA ANALYSIS AND PRESENTATION

4.1. Introduction

This chapter consist of exploratory and basic descriptive illustration and analysis of the effect of FR variables in national macroeconomic variable. The work can be broadly classified in two objectives; first to inquire the effect of FR variables to national macroeconomic performance; Second is to study through which channel the effect is transmitted to economy.

We will be using the line graph of time series data, correlation coefficient and lagged correlation coefficients.

Basically, this chapter presents two

- a. Effect of FR variables on national economy
- b. Channels of transmission of effect of FR variables that are further divided into two parts
 - Saving – Investment channel (volume channel)
 - Efficiency channel

4.2 Effect of FR on Nepalese Economy

Here in this work, after reviewing literatures, we have used the long term economic growth rate and the government finance as the major economic parameters that are related to macroeconomic performance and stability.

4.2.1 FR Variables and Government Finance

According to Jafaraov et al. (2020) financial repression represents a quasi-fiscal operation, where some agents are effectively financially taxed in the pursuit of a public objective. Government with the ease of restricted low interest rate saves its interest cost, which is implicit in Nature. Also, the transmitted or some random unintended supply shock inflation help also to collect more taxes on increased nominal prices. The effect may be vicious.

As Kletzer & Kohli(2001) say that due to the Seignorage and implicit taxes embeded in the process of financial repression makes it fiscally imperative. The government may not have incentive to reform the financial markets due to the perceived risk of fiscal and financial instability.

The substantial tax on financial savings imposed by the financial repression that characterized 1945-1980 was a major factor explaining the relatively rapid reduction of public debt in a number of the advanced economies (Reinhart & Sbrancia, 2015) .

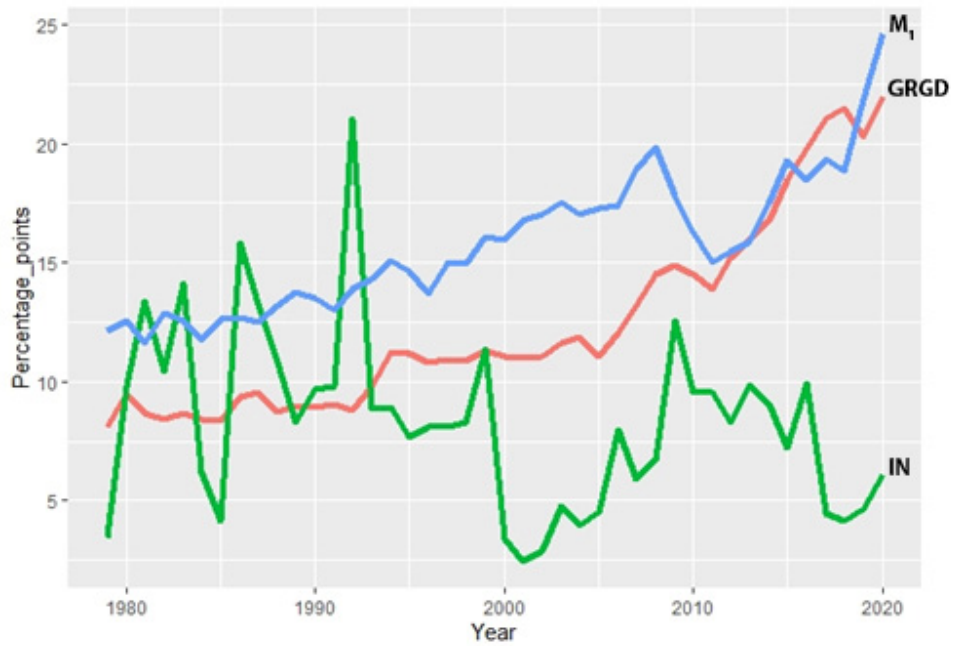
For achieving economic objective financial repression is not an efficient policy when countries face no constraints in the use of different forms of taxation. But in some case as Giovaninni & de Melo (1991) argue whenever there are costs of administering certain types of taxes or whenever income distribution becomes an objective of the government, an implicit tax on domestic financial markets may be part of an optimal taxation program.

Every market needs some regulation and which is true also for financial markets but the government playing active role for its fiscal objective is not an efficient one as Chari et al.(2020) says. He Further argues that Financial repression is optimal when governments need to issue an unusually large amount of domestic debt, such as during wartime or following sudden stops in foreign lending.

Here in this section we are inquiring the correlation between FR variables and the government Finance. The data was sourced from the online publication of Ministry of Finance, Government of Nepal and Nepal Rastra Bank.

Now we present the time series trend and correlation between the FR variables and the variables representing the government finance.

Fig 6: Inflation, Money Supply, Government Revenue



Source: MOF (<http://data.mof.gov.np/data.aspx>)

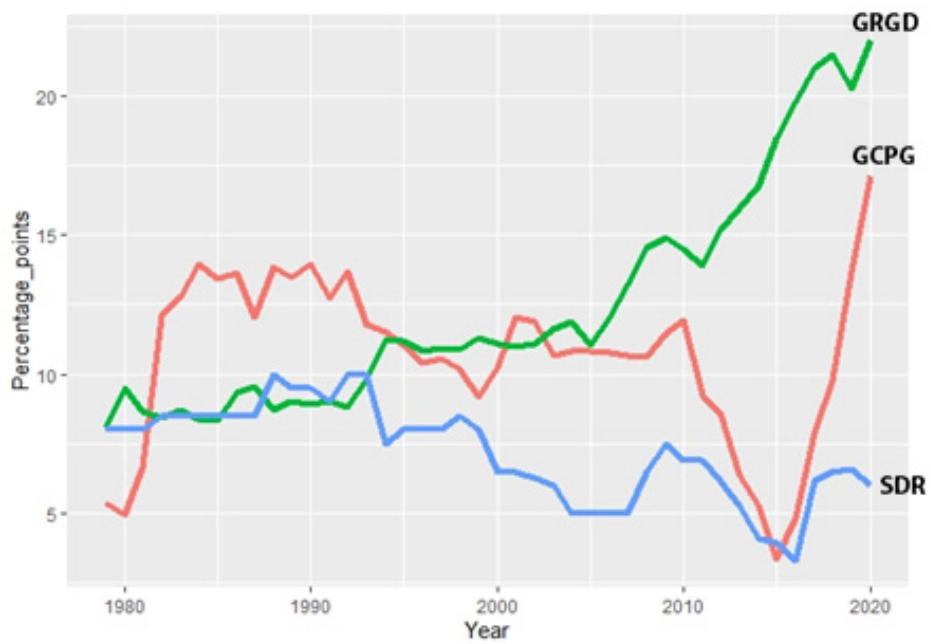
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GRGRD: Government Revenue in percentage of GDP

IN : Inflation

M1 : Narrow Money Supply

Fig. 7: Government Credit & Revenue, Savings Deposit Rate



Source: MOF (<http://data.mof.gov.np/data.aspx>)

Index:

GCPG: Government Credit in percentage of GDP

GRGD: Government revenue in percent of GDP

SDR : Savings Deposit Rate

Table 1: Correlations between FR Variables and Government Outstanding Debt.

variables	Outstanding Debt(t)	Outstanding debt(t+1)	Outstanding Foreign Debt(t)	Outstanding Foreign Debt(t+1)
Savings Deposit Rate	0.186207982	0.24799036	0.227219207	0.31410508
Inflation	0.059789363	0.092405596	0.087723339	0.127827401
M1	0.34030141	0.310752828	0.111893148	

Source: Author's calculation

As we see in above table, we see that the reduction of outstanding debt is loosely correlated with the decreasing interest rate. Although the correlation seems very loose the sign of correlation is expected. The reason of loose correlation may be excluding the effect of restricted exchange rate.

Table 2: Correlation between FR variables and Government Revenue

Variables	Government Revenue(t)	Government Revenue (t+1)
Savings Deposit Rate	-0.672275651	-0.70299617
Inflation	0.196803837	0.150828449
M1	0.864747045	0.845203888

Source: Author's calculation

Again, we see that the revenue of government is robustly inversely correlated with the FR variables savings interest rate. These above-mentioned effect between the government finance and FR measures have shown to have lasting effect in following years when we assume the lagged correlation to give some information.

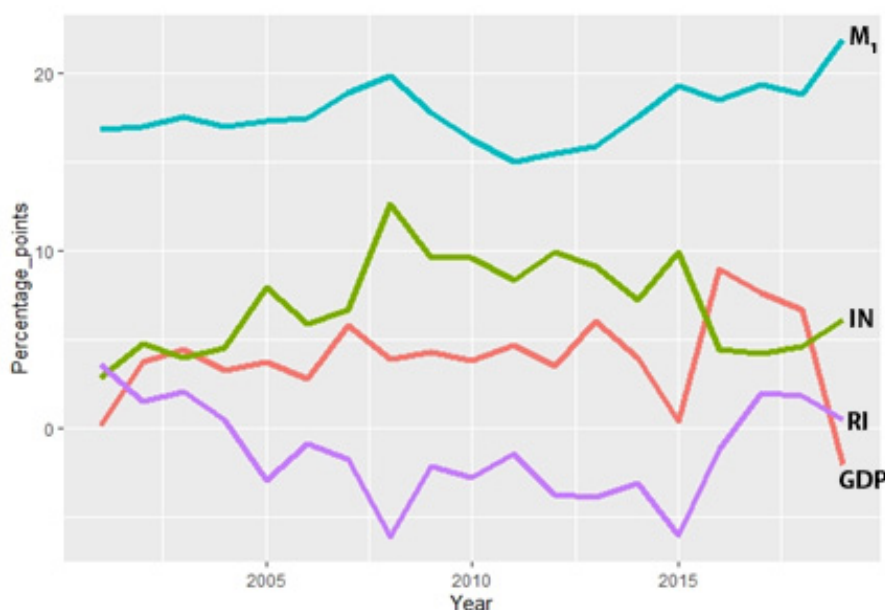
4.2.2 Effect of FR Variables in Long Run Growth

The ultimate objective of any economic and financial policy of government is countries' economic growth. Well regarded literatures like (Mckinnon ,1973) , (Ross & levine , 1992) , (Kamal, 2012) has shown that unrepressed financial environment in an economy

is very good predictor of long run growth. Jafarov et al (2020) goes further to say that partially liberalizing the financial system such as just removing interest rate restricting keeping other FR policy does not translate to growth in full potential.

Here in this section we will explore the scenario of Nepalese economy in respect to relation of FR variables and Growth.

Fig 8: GDP, Inflation and Money Supply



Source: MOF (<http://data.mof.gov.np/data.aspx>)

Index:

GDP : GDP percentage Change (constant Price)

IN : Inflation

M1 :Narrow Money supply

RI :Real Interest rate

Table 3: Correlation between Growth indicators and FR Variables

variables	GDP Growth(t)	GDP Growth (t+1)
Real Interest Rate	0.023535	-0.28710873
Savings Deposit Rate	-0.19506	-0.297522903
Inflation	-0.10738	0.168488719
M1	-0.20129	0.10537987
Efficiency	0.492338	-0.448396093
Private Credit	0.081347	0.034634543

Source: Author's calculation

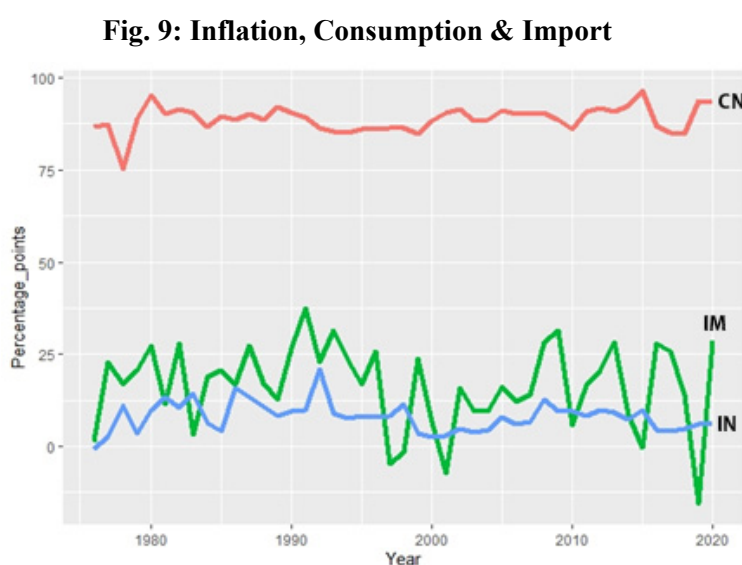
From above tables and figure we can say that FR indicators are not correlated with the growth indicators . Many FR variables such as real interest rate , Inflation, money supply and private credit were compared with the GDP growth rate but found not to be correlated. GDP seems to be correlated only with efficiency channels that will be discussed in following sections.

4.3 Channels of FR on Nepalese Economy

Almost all of the previous literature primarily describes the transmission of signals between the growth prospect and FR indicators in two groups.

- I. **Volume channel:** This deals with income, consumption, saving and investment. If people get good return then they will save their money in long term deposits without investing heavily in unproductive and risky asset. This will increase the loanable fund in financial market and huge invested can be done. We will compare the FR variables with savings, consumption, investment, capital accumulation.
- II. **Efficiency channel:** This deals with the loss in efficiency with FR measures. Such loss in efficiency can be subdivided in poor allocative efficiency, dis benefit of selecting high yielding but long term project, dead loss like non-economic rationing and even corruption.

The figure and correlation table related to volume channels and their relation to FR variables are presented below.



Source: MOF (<http://data.mof.gov.np/data.aspx>)

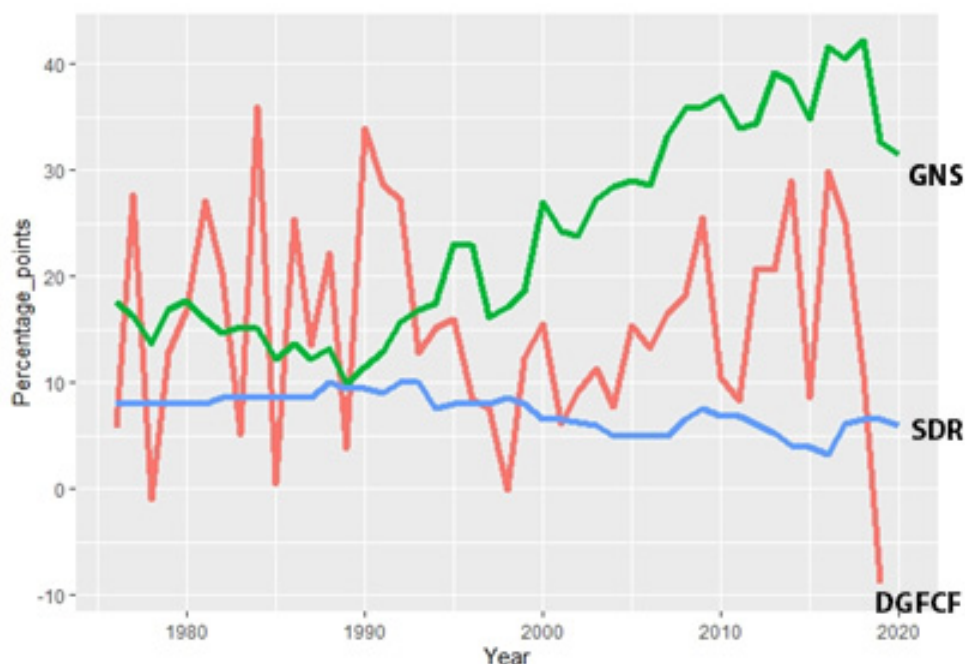
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CN : Consumption in percentage of GDP

IM : Import

IN : Inflation

Fig 10: Capital Accumulation, National Savings and Deposit Rate



Source: MOF (<http://data.mof.gov.np/data.aspx>)

Index:

DGFCF: Change in capital accumulation in percentage

GNS : Gross National Saving

RI : Real Interest Rate

Table 4: Correlation between FR variables and Consumption/Import

Variables	Consumption(t)	Consumption (t+1)	Import(t)	Import(t+1)
Savings Deposit Rate	-0.283129511	-0.232694843		
Inflation	0.149224815	-0.190664996	0.143171	0.333966
Real Interest Rate	-0.457118484	-0.041607089	-0.413783	-0.18813349
M1	0.355875634	0.218751654		

Source: Author's calculation

As expected from our previous theoretical and empirical research purview savings rate and consumption are inversely correlated. Although the correlation seems very loose,

it has lagging effect for following year. When compared with inflation, real interest rate is more clearly and inversely correlated with consumption but lagging effect decreases. Similarly, money supply (M1) is correlated with consumption with lagging effect. The picture tells us that interest rate and inflation has effect on consumption which in turns directly affect the saving. Similarly import is also clearly inversely correlated to the FR variables.

Table 5: Correlation Between FR variables and Capital Formation/National Saving

Variables	GFCF	GFCF (Private Sector)	National Saving (t)	National Savings(t+1)
Real Interest rate	-0.173940659	0.092186894	-0.380485	-0.44064268
Inflation	0.057197333	-0.258746968	0.0169189	0.016918915

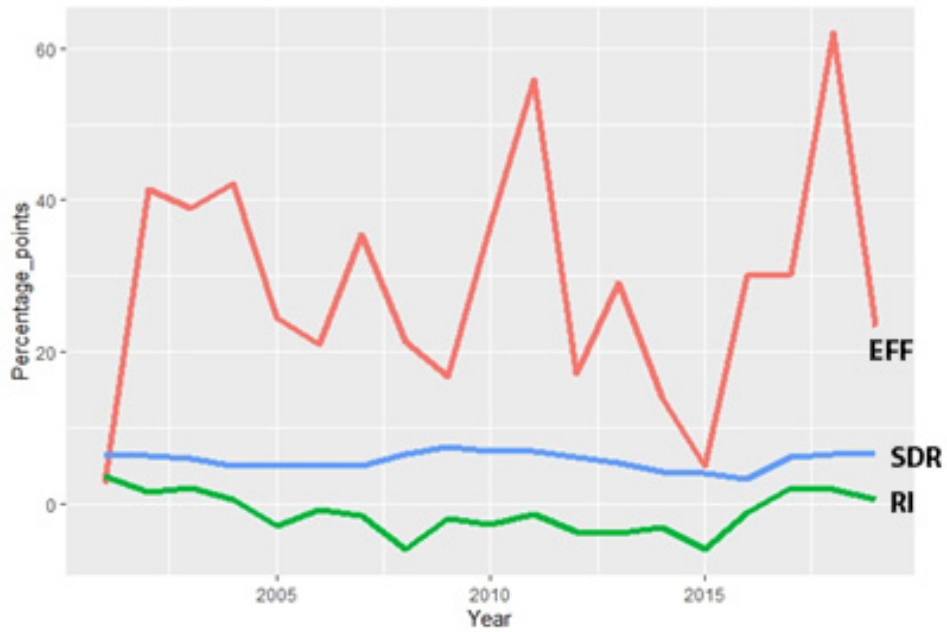
Source: Author's calculation

But, Real interest rate does not have expected correlation with capital stock, and National Saving. There may be the two reasons behind that, one may be the price distortion created due to forcefully pegged currency. The other may be the speculation done to beat the inflation on other capital assets such as house and land.

Now we will be seeing the efficiency channels. The strand of literature based on financial repression argues that due to uneconomic rationing of loans due to demand pressure in credit in cheap interest and the desperate speculation to beat the inflation, the investment can be inefficient. (Jafarov et al. ,2020) By distorting market incentives and signals, financial repression induces losses from inefficiency and rent-seeking that are not easily quantified. To quantify this efficiency channel, we get a very stylized insight from (King & Levine, 1993). They write Financial indicators may be linked to growth through two "channels" in particular: the share of GDP allocated to investment and the efficiency with which resources are used. for quantifying this channel they recommends to derive the ratio of change of output and investment.

The figure and correlation table related to efficiency channels are presented below.

Fig 11: Savings Deposit Rate, Interest Rate & Efficiency of Investment



Source: MOF (<http://data.mof.gov.np/data.aspx>)

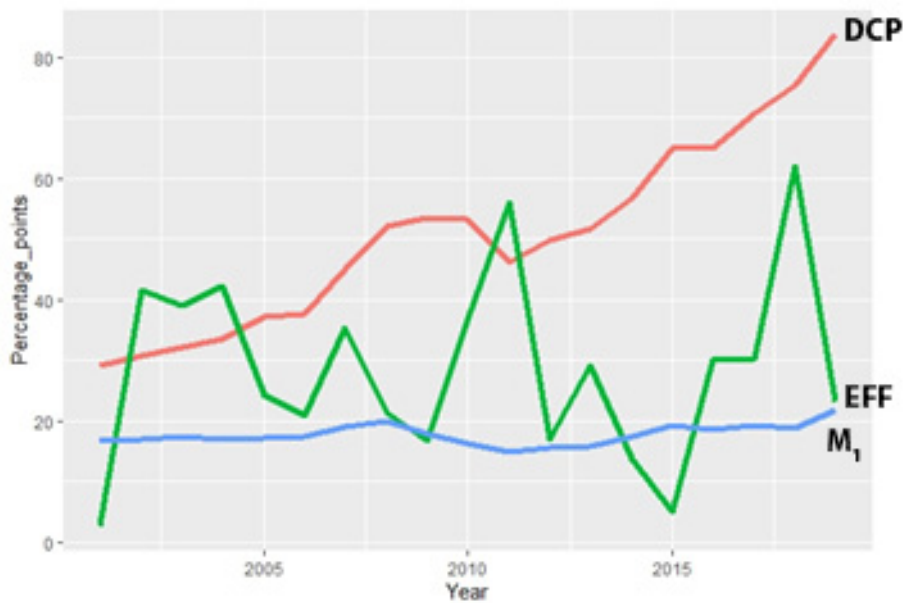
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EFF : Efficiency of Investment (percentage change in real GDP / percentage change in capital stock)

RI : Real interest rate

SDR: Savings deposit rate.

Fig 12: Efficiency of Investment, Money Supply & private sector credit



Source: MOF (<http://data.mof.gov.np/data.aspx>)

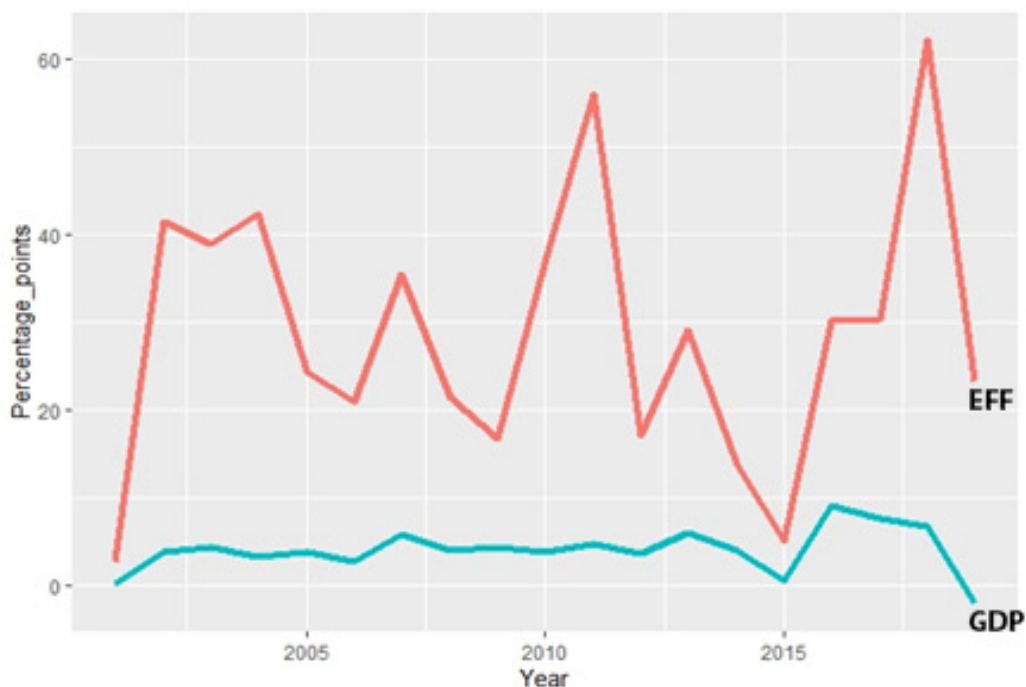
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EFF: Efficiency of Investment

M1: Narrow Money Supply

DCP: Private Sector Credit in percentage of GDP

Fig 13: Efficiency of Investment, GDP



Source: MOF (<http://data.mof.gov.np/data.aspx>)

Index :

EFF : Efficiency of Investment

GDP: GDP(constant price) percentage change

Table 6: Correlation between FR and Efficiency of Investment

variables	Efficiency(t)	Efficiency(t+1)
Real Interest Rate	0.343871364	0.128145809
Savings Deposit Rate	0.242858369	0.36028282
Inflation	-0.250900589	-0.330883771
M1	-0.1667055	0.083813039

Source: Author's calculation

Efficiency of investment seems to be correlated with FR variables inversely. The result is expected although the correlation seems to be loose. The long time series was not available. Real interest rate and savings deposit rate of any economy can be linked to

long term growth due to the reasons such as incentives for selecting correct investment, economic rationing of the loans, and the expertise of knowledge which can be only available when the financial intermediary operates in the scale.

From Above figure and table it shows that In Nepalese Economy Volume channels are not clearly related to long term growth in real terms although there seems correlation between the real Interest rate and GDP growth rate in current price. But there seems to be correlation between efficiency of investment and economic growth rate

4.4 Discussion

By inquiring the data of Nepalese public finance, interest rates, investment briefly with exploratory and very simple descriptive way, it seems FR variable may have some relation to growth with efficiency channels. Which can easily be described whenever the interest rate is cheap, quality, sustainability and return of the investment can be compromised.

But from volume channels (Saving – Investment) neither the channel are so clear nor its effects seem to be. From above we can see that saving is negatively related to interest rate. This may have happened due to three reasons i) price signal distortion due to repressed financial and capital markets ii) due to inefficient growth of housing sector iii) Rise in consumption in low interest environment.

The price signal distortion arises from the financial repression in capital markets and currency markets. Foreign assets may be unnaturally cheap which may bring unsustainable and inefficient growth in form of import-based consumption of goods and services. This phenomenon can act like impediment for future, sustainable growth.

The volume channel effect of interest in GDP growth may have not shown the expected relation due to the real estate and housing bubble as housing industry is encouraged in low interest rate phase because people hedge their income in house to beat the inflation and most of the private wealth in Nepal now is saved in form of real estate and house. Tripathi (2009) argues that inflation and GDP growth is positively related to housing demand and its price. Roihjert & Alhander (2016) studied Japanese and Swedish economy and concluded that there is indirect relationship between housing and GDP.

They argued that interest rate effects rate of return and high inflation encourages to store wealth in form of real state. These two factor in mutual interaction encourages investment in real estate sector. They concluded when GDP is increasing in high inflation and low interest rate environment investment in housing sector grows and price rises. These kind of speculative investment may increase long term risk for an economy. According to Kim (2013) in such environment the value of house may not be real and market may be inefficient.

In low interest rate environment people tend to consume more to maximize their perceived utility in the intertemporal lifetime budget line. Christensen (2012) argues interest rate is negatively related to consumption and Central Bank can manipulate the consumption to put in optimal level. Kapoor (2009) estimated that in Indian economy, fifty percent decrease in interest rate increases the consumption by thirteen percent. These events may increase the investment and also GDP from service sector. But this may not increase long term welfare because of the underinvested infrastructure which may have long term gestation period.

If we calculate the efficiency of investment from the last 25 years data which seems little precise and compare it with growth and FR variables the relation comes as expected. The efficiency is high whenever the real interest rate is high. This may have resulted from the allocative efficiency that high interest rate brings.

Therefore, from this exploratory survey we can say that in Nepalese Scenario efficiency channels are related to FR variables. For Volume channels we were unable to see the clear effect of Interest rate, inflation and money supply.

CHAPTER V

SUMMARY AND CONCLUSION

5.1 Introduction

This research had mainly two parts. Firstly, it inquired the idea of financial repression from historical and theoretical perspective globally. We inquired theoretical underpinnings of this idea. Although it is a subset in the idea of Laissez fare economy, it has some counterintuitive logics based on the intertemporal budget line of the economic agent when he consumes and saves. The indivisible and lumpy nature of the investment for growth is also the important aspect of this school of thought. Furthermore, we checked these theoretical and empirical aspects in Nepalese Context

5.2 Summary

Any economic agent always considers his future consumption while he consumes today. He tries to optimize his lifetime utility. The tool to address and balance the dynamics between the two consumption are considered to be inflation and interest rate which jointly combines to form real interest rate. Low real interest rate encourages to consume more in the present whereas high real interest rate encourages to save and invest. If this saving is attracted to financial sector with high return, there will be abundance of loanable fund. Due to high interest rate investor will be responsible for his investment and will invest in high return sectors which is required for any developing countries. Also this saving has a welfare implication to anybody who saves. The phenomenon will have double advantage, the investment will be yielding high return to investor and bring financial welfare and stability to savers. On Other hand this return on saving has huge implication on lifetime welfare on normal people on an economy. The cost of burden for old age people can be mitigated through the stable and appropriate market interest rate in long term. Even if we speak in pure economic term the market cleared appropriate interest rate mitigates the unjust transfer of capital from savers to burrowers and dead weight loss arisen from uneconomic appropriation and corruption.

From past literature survey we found that government knowingly or unknowingly represses finance of an economy mainly for two purposes, one is to secure its financial

position other is for its economic objective. If this repression is high the country's economy pays the cost. Unrepressed financial system empirically is the predictor of long run growth and financial stability of the country especially in developing phase.

We checked these above mentioned arguments with Nepalese context with the data maintained by Ministry of Finance, Government of Nepal.

In context to Nepal there is relation of efficiency of investment with real interest rate positively and negatively with expansive financial policy. This result is consistent with the global insight of this school of thought. Interest rate and volume channels which deals with the amount of savings and investment seems not to be related. The reason may be the effect of short term boom due to repressed currency market, surge of consumption and housing sector. Shadow price effect was not considered which is important in this kind of volume channel study. This may have masked the true repression on domestic interest rate.

5.3 Conclusion

From this research it can be concluded that financial policy and intervention is as important as the fiscal policy of government. Cost of financial policy are implicit in nature. Fiscal cost and benefit incurred by the government to the economy are clearly understood and are transparent. So it can have clear feedback through checks and balances. But effect of financial policy is not clearly understood by normal people. Financial policy intervention has huge effect on Saving, Investment and efficiency. So to understand this huge market force is very important for correct policy formulation.

From the theoretical survey we can say that free, developed, unrepressed, nondiscriminatory financial system in long run predictor of growth. Developing country has underdeveloped but high return sectors. Free financial system helps to raise domestic capital for those sectors which brings growth and development.

From the empirical research of this study in context to Nepal, it shows that the government finance becomes strong at high inflation, high supply of money and low interest rate. It also shows that efficiency of investment is related to the real interest rate and inversely related to expansive monetary environment. The effect of FR Variables

not seen to be related with volume channels. The direct relation between growth and FR variable is not seen. The effect of Capital control and exchange rate control was not studied. At least we can say that the investment are efficient at high real interest rate from this brief study.

5.4 Recommendation

As financial forces are very important in an economy, regular study of financial policy and its economic impact is required which helps in policy debates and checks-balances. Further detailed study can be done to calculate the exact cost of capital control, interest rate and credit control.

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Annex-I

Literature Review Matrix

S.N.	Title	Author	Objective	Indicator	Outcome
1	Financial Development, Financial repression, & growth in developing countries(2012)	Lilian Kamal	To find relation between financial development and economic growth in developing countries	1. Ratio of currency outside Bank to GDP : (CB) 2. Ratio of broad money to GDP : GDPM 3. Ratio of Deposits in Bank to GDP: GDPD	1. When FR controlled Financial development positively related to developing economies and negatively related to liberlized economy
2	Financial Reppression and Exchange rate management in developing countries : Theory and emperical evidence in India. (2001)	Kenneth Klezer & Renu Kohli	1. To show that balance of payment crisis under a exchange rate peg without captital account convertibility in model economy 2. how financial Reppression may be used for exchange rate management	Government burrowing from private and public source Implicit revenue created Exchange rate	1. The effect of monetary policy to direct the credit transmits into the current account and capital account drawing the imlicit revenue to government and ultimately the policy becomes fiscally imperitive
3	Finance and Growth : Schumpter may be right again (1993)	Robert G. King & Ross levine	1. Develop set of stylized facts about financial structures and economic growth 2.Exploration of channels of influence by which financial indicators are related to growth	1. Credit to financial institution 2.Credit to non financial institution 3. Total Credit 4.GDP 5. CRR	1. higher level of financial development is related positively to economic growth and physical capital accumulation. 2. The present level of financial development is positively related to future growth and physical capital accumulation for 10 - 30 years

4	Finanacial Reppression , Financial Development and Economic Growth (2000)	Jodeph H. Haslag & Jahyeong Koo	1. To find relation between repressionary tools and economic growth 2. Relation between financial repression and financial development. 3. Systematically assessing the role of financial repression by merging relevent literatures of monetary policy vs growth and economic development vs growth	1. CRR 2. Inflation 3. GDP	1. In low inflation countries inflation is not related to growth but in higher eg. 40 percent it hampers growth 2. Growth rate negatively related to CRR 3. Financial development inversely related to financial repression
5	Financial Liberalization in Nepal (2005)	Min Bahadur Shrestha	1. To evaluate the history of financial liberalisation in Nepal. 2. To evaluate the impact of financial liberalisation in economic growth of Nepal	1. wide range of variables in fiscal and monetary policies	1. no. of Bank is positively related to financial development 2. Financial development related to credit:deposit ratio. 3. Financial development not related to economic growth
6	fry(1983)		To evaluate relationship between reppressionary variables and growth in portugal and turkey	Ratio of national Savings&GNP, real interest rate	Growth is negatively related to FR variables
7	fry(1980)		To evaluate relationship between interest rate and growth in 12 asian countries	Real Interest rate,growth,other variables controlled	growth is positively related to growth
8	Reinhart & Sabrancia (2011)		to estimate the debt liquidation effect of financial repression through interest rate and inflation channel	weighted averaged interest rate, inflation	cummilative effect of I . r suppression is estimated to 30 to 40 percent of GDP

Annex II: Data Sheets

Data Sheets for analysis of Government finance

Year	ODPG	ODPGF	GRGD	DBPG	M1	IN	SDR
1974	4.95	2.08	6.07	0.6	8.06		
1975	6.22	2.74	6.4	1.15	8.35		8
1976	7.94	3.64	7.66	1.74	10.72	-0.69198	8
1977	10.07	4.93	8.02	1.22	10.45	2.703427	8
1978	9.74	5.06	6.93	0.77	9.59	11.16753	8
1979	13.71	7.74	8.09	0.77	12.12	3.435973	8
1980	15.49	9.6	9.48	0.98	12.56	9.781954	8
1981	14.91	10.25	8.65	1.61	11.65	13.38521	8
1982	19.57	13.95	8.42	2.96	12.86	10.41874	8.5
1983	23.41	16.09	8.68	4.01	12.55	14.16804	8.5
1984	29.06	19.75	8.41	3.86	11.76	6.236935	8.5
1985	29.36	18.53	8.33	2.52	12.61	4.142795	8.5
1986	35.02	23.76	9.35	2.58	12.71	15.84488	8.5
1987	38.78	27.08	9.56	1.47	12.48	13.27197	8.5
1988	45.76	32.73	8.72	1.49	13.19	10.79044	10
1989	48.05	35.59	9.01	2.08	13.75	8.314335	9.5
1990	61.63	49.44	8.91	3.78	13.53	9.702248	9.5
1991	61.4	47.44	9.04	1.39	13.02	9.812277	9
1992	64.53	50.98	8.83	0.94	13.9	21.05377	10
1993	63.94	51.17	9.83	0.91	14.31	8.863172	10
1994	65.53	51.56	11.23	0.87	15.05	8.949895	7.5
1995	64.32	51.44	11.21	0.88	14.66	7.657766	8
1996	59.29	47.09	10.83	1.07	13.71	8.134516	8
1997	65.52	53.59	10.95	1.13	15.01	8.090992	8
1998	60.78	49.55	10.89	1.38	14.93	8.325624	8.5
1999	63.34	50.25	11.3	1.45	16.07	11.37916	8
2000	57.96	45.65	11.07	1.59	15.99	3.392754	6.5
2001	60.98	47.91	10.98	1.74	16.79	2.434804	6.5
2002	62.59	45.39	11.08	1.8	17.02	2.88972	6.25
2003	59.42	43.37	11.61	1.04	17.51	4.74934	6
2004	52.12	37.26	11.9	1.52	17	3.963056	5
2005	50.25	35.77	11.05	1.81	17.29	4.538847	5
2006	44.02	29.76	12.05	2.46	17.43	7.962505	5
2007	44.87	30.65	13.19	2.51	18.92	5.9	5
2008	40.75	28.03	14.52	1.86	19.88	6.704438	6.5
2009	33.9	21.48	14.92	2.51	17.78	12.58186	7.5
2010	32.46	18.99	14.51	3.11	16.27	9.57612	6.9
2011	29.76	17.59	13.9	2.38	15	9.559421	6.9
2012	28.41	17.11	15.19	1.12	15.47	8.315009	6.17
2013	24.79	15.53	15.97	1.02	15.89	9.838295	5.25
2014	22.48	14.16	16.75	1.99	17.53	9.080903	4.09

2015	24.07	14.91	18.48	3.9	19.3	7.214934	3.94
2016	22.67	13.45	19.8	3.3	18.5	9.938078	3.28
2017	26.54	15.22	21.03	4.78	19.37	4.449464	6.15
2018	27.16	15.42	21.5	2.78	18.83	4.153967	6.49
2019	36.27	20.59	20.28		21.87	4.632107	6.6
2020	40.51	21.75	21.99		24.6	6.121144	6.01

Data Sheet for FR vs Growth

Year	SDR	IN	RI	M1	DCP	EFF	EFFP	EFFPR	GDP
2001	6.5	2.88972	3.61028	16.79	29.02	2.640264	-0.04638	0.018519	0.16
2002	6.25	4.74934	1.50066	17.02	30.67	41.42857	-0.24167	0.250498	3.77
2003	6	3.963056	2.036944	17.51	32.14	38.92321	2.75625	0.33819	4.41
2004	5	4.538847	0.461153	17	33.43	42.22222	0.213907	0.499227	3.23
2005	5	7.962505	-2.96251	17.29	37.24	24.36316	2.168605	0.211451	3.73
2006	5	5.9	-0.9	17.43	37.57	20.92846	0.067468	0.304204	2.75
2007	5	6.704438	-1.70444	18.92	45	35.43067	0.171243	0.445469	5.8
2008	6.5	12.63064	-6.13064	19.88	52	21.34647	0.114002	0.266212	3.9
2009	7.5	9.6	-2.1	17.78	53.53	16.69279	0.200943	0.15979	4.26
2010	6.9	9.643049	-2.74305	16.27	53.21	36.63178	0.203704	0.459427	3.85
2011	6.9	8.304271	-1.40427	15	46.06	55.92814	0.384362	0.639726	4.67
2012	6.17	9.9	-3.73	15.47	49.92	17.02025	0.659813	0.139968	3.53
2013	5.25	9.1	-3.85	15.89	51.55	29.11822	0.231243	0.310916	6.01
2014	4.09	7.2	-3.11	17.53	56.69	13.74309	0.247512	0.12322	3.98
2015	3.94	9.934167	-5.99417	19.3	64.88	4.976852	0.009436	1.72	0.43
2016	3.28	4.47	-1.19	18.5	64.9	30.05355	1.595027	0.237127	8.98
2017	6.15	4.2	1.95	19.37	70.68	30.32232	0.140487	0.428571	7.62
2018	6.49	4.64	1.85	18.83	75.42	62.01117	-0.69231	0.381225	6.66
2019	6.6	6.15	0.45	21.87	83.71	23.19645	2.458824	0.188458	-2.09

Data Sheets for analysis of efficiency channel vs FR

Year	SDR	IN	RI	M1	DCP	EFF	EFFP	EFFPR
2001	6.5	2.9	3.610	16.79	29.02	0.026403	-0.04638	0.018519
2002	6.25	4.7	1.501	17.02	30.67	0.414286	-0.24167	0.250498
2003	6	4.0	2.037	17.51	32.14	0.389232	2.75625	0.33819
2004	5	4.5	0.461	17	33.43	0.422222	0.213907	0.499227
2005	5	8.0	-2.963	17.29	37.24	0.243632	2.168605	0.211451
2006	5	5.9	-0.900	17.43	37.57	0.209285	0.067468	0.304204
2007	5	6.7	-1.704	18.92	45	0.354307	0.171243	0.445469
2008	6.5	12.6	-6.131	19.88	52	0.213465	0.114002	0.266212
2009	7.5	9.6	-2.100	17.78	53.53	0.166928	0.200943	0.15979
2010	6.9	9.6	-2.743	16.27	53.21	0.366318	0.203704	0.459427
2011	6.9	8.3	-1.404	15	46.06	0.559281	0.384362	0.639726
2012	6.17	9.9	-3.730	15.47	49.92	0.170203	0.659813	0.139968
2013	5.25	9.1	-3.850	15.89	51.55	0.291182	0.231243	0.310916

2014	4.09	7.2	-3.110	17.53	56.69	0.137431	0.247512	0.12322
2015	3.94	9.9	-5.994	19.3	64.88	0.049769	0.009436	1.72
2016	3.28	4.5	-1.190	18.5	64.9	0.300535	1.595027	0.237127
2017	6.15	4.2	1.950	19.37	70.68	0.303223	0.140487	0.428571
2018	6.49	4.6	1.850	18.83	75.42	0.620112	-0.69231	0.381225
2019	6.6	6.2	0.450	21.87	83.71	0.231964	2.458824	0.188458

Data Sheet for analysis of FR vs volume channel

	SDR	IN	RI	M1	DGFCF	DGFCFP	DGFCFPRCN	CNPR	GNS	DCG	DCP	IM	
1976	8	-0.6919823678	691982367	10.7	5.61	9.02	4.42	86.51	79.2	17.5	5	1.33	
1977	8	2.703427373	5.296572627	10.5	27.7	61.54	15.34	87.15	79.7	16.3	5.43	22.99	
1978	8	11.1675288	-3.167528805	9.59	-0.94	2.25	-2.57	75.13	67.9	13.6	5.1	16.81	
1979	8	3.435972863	4.564027137	12.1	12.8	28.82	4.24	88.9	82.2	16.8	5.39	8.21	20.64
1980	8	9.781954275	-1.781954275	12.6	16.8	24.35	11.78	95.31	87.8	17.7	4.95	9.78	27.24
1981	8	13.3852092	-5.385209204	11.7	27.1	36.42	20.27	90.07	81.6	15.9	6.65	8.51	11.34
1982	8.5	10.41873587	-1.918735869	12.9	20.3	18.25	22.06	91.29	81.2	14.7	12.1	7.98	28.07
1983	8.5	14.16803833	-5.668038328	12.6	5.03	6.73	3.66	90.36	81.1	15.3	12.8	8.08	3.17
1984	8.5	6.236934723	2.263065277	11.8	35.9	15.61	52.79	86.61	77.2	15	13.9	8.66	18.85
1985	8.5	4.142794811	4.357205189	12.6	0.48	7.72	-4.08	89.44	80.4	12.2	13.5	9.27	20.65
1986	8.5	15.84488477	-7.344884766	12.7	25.4	20.93	28.54	88.54	79.5	13.6	13.6	9.6	16.74
1987	8.5	13.27196705	-4.771967047	12.5	13.4	15.99	11.74	90.11	81.2	12.1	12	10.3	27.18
1988	10	10.79044144	-0.790441437	13.2	22.2	44.12	7.05	88.63	78.6	13.2	13.8	11.6	17.26
1989	9.5	8.31433546	1.18566454	13.8	3.72	0.84	6.41	92.13	83.5	9.91	13.5	11.3	12.67
1990	9.5	9.702248367	-0.202248367	13.5	34	8.97	56.04	90.43	81.2	11.5	14	11.7	26.75
1991	9	9.812276903	-0.812276903	13	28.5	18.98	34.39	89.16	81.2	13	12.7	12.1	37.52
1992	10	21.05377222	-11.05377222	13.9	27.3	13.92	34.65	86.48	77.8	15.7	13.7	12.6	22.75
1993	10	8.9	1.050104551	14.3	12.8	13.69	12.32	85.34	77.3	16.9	11.8	15.2	31.54
1994	7.5	7.7	-0.15776591	15.1	15.1	12.63	16.22	85.19	75.9	17.4	11.5	19.6	23.48
1995	8	8.1	-0.134516498	14.7	15.9	16.95	15.49	86.17	76.9	23.1	11.1	22.3	16.92
1996	8	8.1	-0.090992417	13.7	8.4	10.03	7.66	86.04	77.1	22.9	10.4	23.1	25.65
1997	8	8.3	-0.325624422	15	7.54	16.4	3.38	86.23	76.9	16.2	10.6	25.5	-4.87
1998	8.5	11.4	-2.879163108	14.9	-0.16	5.83	-3.32	86.39	77.5	17.2	10.2	26.6	-1.66
1999	8	3.4	4.607245543	16.1	12.3	10.67	13.31	84.83	75.9	18.6	9.18	28.8	23.97
2000	6.5	2.4	4.065195897	16	15.6	-31.67	42.23	88.34	79	26.9	10.2	28.7	6.62
2001	6.5	2.9	3.610279923	16.8	6.06	-3.45	8.64	90.51	80.8	24.2	12	29	-7.17
2002	6.25	4.7	1.500659631	17	9.1	-15.6	15.05	91.44	81.4	23.8	11.9	30.7	15.8
2003	6	4.0	2.036943745	17.5	11.3	1.6	13.04	88.25	78.1	27.3	10.7	32.1	9.59
2004	5	4.5	0.461153287	17	7.65	15.1	6.47	88.44	78	28.4	10.8	33.4	9.68
2005	5	8.0	-2.96250515	17.3	15.3	1.72	17.64	91.02	80.7	29	10.9	37.2	16.26
2006	5	5.9	-0.9	17.4	13.1	40.76	9.04	90.18	79.3	28.6	10.8	37.6	12.03
2007	5	6.7	-1.704438149	18.9	16.4	33.87	13.02	90.17	78.6	33.2	10.7	45	13.99
2008	6.5	12.6	-6.130639532	19.9	18.3	34.21	14.65	90.57	78.2	35.9	10.6	50	28.18
2009	7.5	9.6	-2.1	17.8	25.5	21.2	26.66	88.55	76.9	35.9	11.5	53.5	31.59
2010	6.9	9.6	-2.743049498	16.3	10.5	18.9	8.38	86.03	74.8	37	12	53.2	5.83

2011	6.9	8.3	-1.404270998	15	8.35	12.15	7.3	90.88	76.5	33.9	9.26	46.1	16.53	
2012	6.17	9.9	-3.73		15.5	20.7	5.35	25.22	91.82	77.8	34.4	8.61	49.9	20.59
2013	5.25	9.1	-3.85		15.9	20.6	25.99	19.33	90.64	76	39.1	6.36	51.6	28.31
2014	4.09	7.2	-3.11		17.5	29	16.08	32.3	92.37	78.1	38.3	5.25	56.7	8.44
2015	3.94	9.9	-5.994166667		19.3	8.64	45.57	0.25	96.36	82.6	34.8	3.36	64.9	-0.14
2016	3.28	4.5	-1.19		18.5	29.9	5.63	37.87	87.02	73.6	41.7	4.86	64.9	27.99
2017	6.15	4.2	1.95		19.4	25.1	54.24	17.78	85.21	70.1	40.5	7.89	70.7	25.75
2018	6.49	4.6	1.85		18.8	10.7	-9.62	17.47	84.7	67.8	42.1	9.74	75.4	13.93
2019	6.6	6.2	0.45		21.9	-9.01	-0.85	-11.09	93.65	68.8	32.6	13.7	83.7	-15.6
2020	6.01	6.121144318	-0.111144318		24.6				93.38		31.4	17.1	97	28.66