Asymmetric Nexus Between Monetary Freedom and Economic Growth of Pakistan

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1. Introduction

Historically, monetary conditions have not always played an important role in theoretical considerations as a necessary precondition for a stable & efficiently functioning national economy. Early growth models were non-monetary and did not monitor monetary variables as factors which influence the real economy (Allen, D. E., & McAleer, M., 2020; Alqaralleh, H., 2020). With the introduction of monetary conditions, changes in price levels of Pakistan were initially considered a potentially useful instrument to stimulate economic growth, although this has been referred to as a "slow and steady rate of inflation". Even Schumpeter held the view that rising prices may be good for economic growth. There have been some empirical studies that challenge the dominant theoretical paradigm and imply that the relationship is not quite as straightforward (Alsamara, M., & Mrabet, Z., 2019; Chizema, A., & Pogrebna, G., 2019; Dang, Y., 2021; Economou, F., 2019).

2. Justification of Study

Monetary stabilization and price liberalization were some of the main elements of the mainstream economic doctrine of the transition process. Given that the goal was the transition to market-led economies, there could not be much disagreement over the significance of these objectives. However, major controversies arose over the speed of reforms and the concerns were mostly about the impact on economic growth (Allen, D. & McAleer, M., 2020; Alqaralleh, H. 2020; Economou, F. 2019). The new market-oriented institutional environment aimed for enabling and enhancing an entrepreneurial activity by giving economic agents greater freedom in decision making and by establishing the proper set of incentives, as well as creating stable and predictable economic and institutional environment (Alsamara, M., & Mrabet, Z. 2019; Chizema, A., & Pogrebna, G. 2019). As an attempt to capture these diverse aspects, The Heritage Foundation formulated the Index of Economic Freedom in 1995. In the Heritage Foundation index, economic freedom was measured based on ten quantitative and qualitative factors, grouped into four broad categories: Rule of Law (property rights, freedom from corruption); Limited Government (fiscal freedom, government spending), Regulatory Efficiency (business freedom, labor freedom, monetary freedom); and Open Markets (trade freedom, investment freedom, and financial freedom).

3. Brief Literature Review

In previous studies, the effects of monetary freedom on economic performance have been grouped with other aspects and overall economic freedom. Some of these studies have found quite compelling evidence and causality that economic growth is determined by monetary freedom (Allen, D. E., & McAleer, M., 2020; Alqaralleh, H., 2020; Dang, Y., 2021). Other studies in which monetary freedom is observed as an integral part of an overall freedom score suggest a positive relationship (Alsamara, M., & Mrabet, Z., 2019). A possible reason for this practice is the fact that the effects are stronger when aggregate measures are employed (Chizema, A., & Pogrebna, G., 2019). Some of the studies monitored both components of the monetary freedom index separately,

concluding that wage and price controls were less significant than inflation (Dang, Y., 2021). Some found that monetary policy and price stability played no roles.

Even in an instance when freedom and economic growth were focused on, inflation was the only monetary condition observed (Allen, D. E., & McAleer, M., 2020). Furthermore, in previous studies, the dominant method of measurement used was the Fraser Index of Economic Freedom (EFW) or more precisely, access to sound money. The EFW is inappropriate for this study because some of its components are irrelevant to the selected sample of countries, as according to it, freedom includes the ability to own foreign currency bank accounts. As the Heritage Foundation index of monetary freedom was employed, in which inflation is weighted as four-fifths of the overall result, it was also found appropriate to review existing literature that is concerned with the inflation-growth nexus.

Monetary freedom is not only determined by low inflation, it also requires the absence of price control (Allen, D. E., & McAleer, M., 2020; Dzekashu, W. G., 2021). Price liberalization is important for economic growth in two aspects. Sustainable price stability is possible only under free prices. If this condition is not met and a lot of prices in economy are controlled, a practice that was especially common in former socialist economies, then there is so-called suppressed inflation. Similarly, if some prices are under direct control of the state, economic subjects will not have the correct market information, because the system of relative prices in this case simply does not function. As a result, allocative efficiency will be impacted.

4. The Empirical Model

This study focuses on the relationship between economic growth and the monetary freedom. Economic growth is measured by the percentage change in real GDP (constant 2005 prices). Monetary freedom is measured using the Heritage Foundation's Monetary Freedom Index (MFI). The main hypothesis in this paper is that economic growth depends directly upon monetary freedom:

$$\mathrm{GROWTH}_{i,t} = f(\mathrm{MF}_{i,t-1}, Z_{i,t-1}) \quad (1)$$

Given the model (Eq.1), the following general panel data model can be estimated:

$$\mathrm{GROWTH}_{i,t} = \alpha_0 + \alpha_1 \mathrm{M}_{i,t-1} + \sum_{k=2}^{9} \alpha k Z_{i,t-1} + u_{i,t} \quad (2)$$

Where $GROWTH_{i,t}$ is the percent change in the real GDP in country *i* in year *t*;
$MF_{i,t-1}$ is the value of the monetary freedom index in nation *i* in year *t – 1. Here*, $Z_{i,t-1}$ is the 1x8 control regressor matrix (*FF; GSF;BF;TF;IF;FINF*; *PRF*; *CF*); $u_{i,t}$ is the error term. The observed time period is t = 1997 – 2015 and observed economies are $i = 1,\ldots,11$. The mechanism developed by Shin, Smith, and Pesaran (2001) is as: -

$$\Delta GDP = \theta + \sum_{k=1}^{p1} \theta \Delta GDP(\mathrm{t}-\mathrm{k}) + \sum_{k=1}^{p2} \theta\, \Delta MF\,(\mathrm{t}-\mathrm{k}) + \sum_{k=1}^{p1} \theta \Delta PSTAB(t-k) \sum_{k=1}^{p1} + ƛ1 * \mathrm{MF}(\mathrm{t}-1) + ƛ2\mathrm{PSTAB}(\mathrm{t}-1) + ƛ3\mathrm{XRATE}(\mathrm{t}-1) + \mu \ldots\ldots\ldots \quad Equation\ (2)$$

$$\boldsymbol{ʒ = Ʊ^{+} \Upsilon_t^{+} + Ʊ^{-} \Upsilon_t^{-} + \mu_t} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad Equation\ (3)$$

To link long-run coefficients by using $Ʊ^{+}$ and $Ʊ^{-}$ to show p*ositive and negative* (POS & NEG) decomposition, $\mathbf{y_t}$ shows the vector of explanatory variables that are disintegrated in the Equation below. It also shows the basic concept of NARDL.

$$\Upsilon_t = \Upsilon_0 + \Upsilon_t^+ + \Upsilon_t^- \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots Equation\ (4)$$

Table-1 List of Dependent and Independent Variables

Description of Variables	Variables	Unit of Measurement	Data Sources
Gross Domestic Product	GDP	GDP in terms of US dollars	WDI, 2021
Monetary Freedom	MF	A Component of EF Index	EF Index 2021
Political Stability	P.STAB	A Component of EF Index	EF Index 2021
Foreign Exchange Rate	FER	Annual Avg. Exchange Rate	WDI, 2021

5. Results Explanation

Table-1 deals with the independent and dependent variables. Here, the asymmetric links of monetary freedom with the economic growth in the presence of political stability and foreign exchange rate. Table-2 is the descriptive statistics for GDP, Monetary freedom, political stability and exchange rate about its Mean, Median, Skewness and Kurtosis statistics.

Table-2 Descriptive Statistics for GDP, MF, PSTAB, and XRATE

	LNGDP	LNMF	LNPSTAB	LN. XRATE
Mean	1.327007	1.850831	0.593910	1.830767
Median	1.359611	1.856422	0.624993	1.787673
Maximum	1.660384	1.894316	1.200577	2.219208
Minimum	0.790215	1.778151	-0.327902	1.448817
Std. Dev.	0.228920	0.029462	0.473692	0.204365
Skewness	-0.585640	-0.591543	-0.301144	-0.095714
Kurtosis	2.603436	3.014908	1.748885	2.295888

Table-3 Results of Granger Causality for GDP, MF, PSTAB, and XRATE

Null Hypothesis:	Obs	F-Statistic	Prob.
LNMF does not Granger Cause LNGDP	30	2.65379	0.0439
LNSMD__GDP_ does not Granger Cause LNMF		0.21255	0.8102
LNPSTAB does not Granger Cause LNGDP	30	0.37462	0.0592
LNSMD__GDP_ does not Granger Cause LNPSTAB		0.35765	0.7035
LNXRATE does not Granger Cause LNGDP	30	2.66164	0.0433
LNSMD__GDP_ does not Granger Cause LNXRATE		2.20951	0.1346
LNPSTAB does not Granger Cause LNMF	30	1.67637	0.2111
LNMF does not Granger Cause LNPSTAB		0.30524	0.7402
LNXRATE does not Granger Cause LNMF	30	0.70694	0.5045
LNMF does not Granger Cause LNXRATE		0.18087	0.8358
LNXRATE does not Granger Cause LNPSTAB	30	0.50565	0.0413
LNPSTAB does not Granger Cause LNXRATE	30	0.28717	0.0553

Table-3 deals with the results of Granger Causality that indicate the mutual impact of related variables. The results indicate that the mutual impact of all variables. That shows the significant impact of monetary freedom on the economic development of Pakistan economy.

6. Contribution of the Study

This study will contribute towards the new insights regarding the nexus between the monetary freedom and economic growth of Pakistan. This also contributes the modification of existing policy making and policy implementation.

7. References

Allen, D. E., & McAleer, M. (2020). A nonlinear autoregressive distributed lag (NARDL) analysis of west texas intermediate oil prices and the DOW JONES index. *Energies*, *13*(15), 1–11. https://doi.org/10.3390/en13154011

Alqaralleh, H. (2020). Stock return-inflation nexus; revisited evidence based on nonlinear ARDL. *Journal of Applied Economics*, *23*(1), 66–74. https://doi.org/10.1080/15140326.019.170828

Alsamara, M., & Mrabet, Z. (2019). Asymmetric impacts of foreign exchange rate on the demand for money in Turkey: new evidence from nonlinear ARDL. *International Economics and Economic Policy*, *16*(2), 335–356. https://doi.org/10.1007/s10368-018-0421-y

Chizema, A., & Pogrebna, G. (2019). The impact of government integrity and culture on corporate leadership practices: Evidence from the field and the laboratory. *Leadership Quarterly*, *30*(5), 101303. https://doi.org/10.1016/j.leaqua.2019.07.001

Dang, Y. (2021). *Comparing the Determines of Economic Growth of 5 Developed Countries and China*. *2*(1), 7–13. https://doi.org/10.33969/twjournals.femr.2021.020102

Dzekashu, W. G. (2021). *China Belt and Road Initiative : Ties that Bind or Choke Development in the East and Southern Africa Subregions*. *9*(5), 11–27.

Economou, F. (2019). Economic freedom and asymmetric crisis effects on FDI inflows: The case of four South European economies. *Research in International Business and Finance*, *49*(January), 114–126. https://doi.org/10.1016/j.ribaf.2019.02.011