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Conventional Paths of Transmission of Monetary Policy: An Introduction

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Abstract

Since, the advent of new economic reforms (1991), the India has witnessed a significant rise in its growth. The process through which the changes are made in the monetary policy, influences the various macroeconomic variables like growth and inflation, is called as Monetary Policy Transmission Mechanism. Therefore, a deep knowhow (understanding) of the working of the various modes of monetary transmission becomes necessary for the efficient and effective functioning of Monetary Policy. The current paper explains the conventional paths of monetary transmission e.g. the interest rate path, the exchange rate path, the credit path (the bank lending path and the balance sheet path), the asset price path and the expectations path. The objective of this paper is to improve the understanding about the existing paths of the transmission mechanism of monetary policy subject to available literature. This will further provide basis for the future research in the area of the monetary economics to the interested researchers. This paper has used the literature from 1991 to 2022 for this purpose.

Keywords: Transmission mechanism, monetary policy, modes of monetary transmission, interest rate path, exchange rate path, credit path etc.

Introduction

The success of the monetary actions taken by the monetary authorities of a nation from time to time, depends upon the efficiency of transmission mechanism works and significantly affect the real economy. The intensity of stability and close association between operational variables under the control of Reserve Bank of India (RBI) and the intermediate targets ensure the effectiveness of the monetary policy. The main objectives that monetary authorities have is to bring the output and prices in compliance while keeping in mind the economic conditions of the country. Therefore, it is essential that there is a close and stable association between the intermediate targets and the final targets. The working of monetary policy transmission mechanism and its efficiency varies from country to country since it is based on the structure (economic and financial) of country. There are various factors which play important role for the effective policy transmission like development of financial system, degree of development in capital and money market, government regulations for financial system, global integration etc.

The objective of this paper is to improve the understanding about the existing paths of the transmission mechanism of monetary policy subject to available literature. This will further provide basis for the future research in the area of the Monetary economics to the interested researchers. This paper has used the literature from 1991 to 2022 for this purpose.

Types of Conventional Paths of Monetary Transmission:

Generally, there are six conventional paths (channels) of monetary policy transmission which are identified across the literature as follows:

(i) The interest rate path (Taylor, 1995)
(ii) The exchange rate path (Obstfeld and Rogoff, 1995; Bovin, Kiley and Mishkin, 2011)
(iii) Bank lending path (Bernanke and Gertler, 1995)
(iv) Balance sheet path (Bovin et at., 2011)
(v) Asset price path (Meltzer, 1995); and
(vi) Expectation path (Yellen, 2011)

However, it is important to mention here that these are the paths which are basically related to the developed countries and very few of them might be useful or relevant in case of developing countries. Effectiveness of these paths depends on structure and development of economic and financial system prevalent in the concerned nation.

The Interest Rate Path

The basic macroeconomics literature explains the monetary transmission mechanism through the interest rate path. In the Keynesian framework, any monetary expansion (via monetary policy stance) initially affects (decreases) real interest rate which decreases the cost of borrowing capital and consequently rise in investment expenditure which finally resulted enhanced aggregate demand and output. Similarly, any monetary contraction increases interest rate which raises cost of borrowing capital and decline in investment expenditure resulted decline in aggregate demand and output. However, initially this path was thought to be working through investment by the firms and industries but later on many research studies observed that this path equally works through investment made by households on purchase of home and durable goods (Mishkin, 1995). Therefore, here investment includes both investment by firms as well as investment by households. These effects are summarized in the table - 1 given below:

Table – 1

The monetary action through interest rate path

Monetary Policy Action (M)	**Effect on Real Interest Rate (i)**	**Effect on Investment (I)**	**Effect on Output (Y)**
Monetary Expansion	*fall in real interest rate*	*Increase in investment*	*Rise in output*
Monetary Contraction	*rise in real interest rate.*	*Decrease in investment*	*Fall in output*

Source: Author

The interest rate path is one of the most prominent paths of the monetary policy transmission which works through short-term nominal interest rate, sticky prices and rational expectations, real long-term interest rate (Taylor, 1995).

In case of India, the Interest rate path primarily works through the RBI (monetary policy regulator), makes changes policy rate i.e. repo rate from time-to-time which changes call money rate i.e. weighted average call money rate (WACR) which has the consequent effect on the financial market (Money and Bond Market) and the Banks, consequently there is a significant effect on the components of aggregate demand and finally on the prices and economic growth.

The Exchange Rate Path

The globalization and integration among markets (commodities and financial) and prevalence of flexible exchange rate system, the exchange rate path has become highly important and therefore it is appropriately included and explained in most of the textbooks on macroeconomics and international economics. In general, under exchange rate path any monetary policy change will have its effect on rate of interest which further effects exchange rate which changes net exports and output. A monetary expansion causes decreases real interest rate which leads to rise in exchange rate i.e. domestic currency depreciation, the domestic goods become cheaper in the international market consequently there is a rise in the net exports and finally the output as well. Similarly, a monetary contraction affects above variables in opposite direction. These effects are summarized in the table - 2 given below:

Table – 2
The monetary action through exchange rate path

Monetary Policy Action (M)	**Effect on Real Interest Rate (i)**	**Effect on Exchange Rate (E)**	**Effect on Net Exports (NX)**	**Effect on Output (Y)**
Monetary Expansion	*fall in real interest rate*	*Increase in exchange rate*	*Increase in net exports*	*rise in output*
Monetary Contraction	*rise in real interest rate.*	*Decrease in exchange rate*	*Decrease in net exports*	*Fall in output*

Source: Author

As the exchange rate path also works through rate of interest hence the same mechanics applies in India also as explained above in the rate of interest path. However, any monetary policy change effects rate differential (difference between domestic and foreign interest rates) which causes the capital flows and affects exchange rate and consequently on net exports of the country (Dua. P, 2020).

The Credit Path

This path of monetary transmission takes place when the change in monetary stance effects the availability of credit within the financial system. Financial markets usually suffer from the agency problem i.e. problem of asymmetric information (adverse selection and moral hazard). This path of monetary transmission deals in individual retail borrowers (households) and firms. Generally, the adverse selection problem is related with the household borrowers whereas the moral hazard problem is more concerned with the firms. Therefore, the credit path is further subdivided into bank lending path and the balance sheet path.

(i) **The Bank Lending Path**:

The bank lending path basically shows effect of monetary action change on banks' capacity of lending to the firms. Banking system plays be a very crucial role as financial intermediary in an economy since it bridges the gap between the lender and the borrowers. The banks, generally have the appropriate tools and skills etc., needed for monitoring of borrowers which helps them in tackling the adverse selection problems. Therefore, the bank lending path is mainly related with the retail borrowers. Under this path any monetary policy action effects the bank deposits as a result there is a significant effect on the lending capacity of the banks and on aggregate demand (investment) and output. A monetary contraction causes a fall in bank deposits and as a result, the bank has low credit creation capacity (fall in bank loans) which leads to decrease in the investment expenditure and consequently fall in output. Similarly, any monetary expansion will have an opposite effect on the economic variables. These effects are summarized in the table - 3 given below:

Table – 3

The monetary policy action through bank lending path

Monetary Policy Action (M)	**Effect on Bank Deposits (D)**	**Effect on Bank Loans (L)**	**Effect on Investment (I)**	**Effect on Output (Y)**
Monetary Expansion	*Rise in bank deposits*	*Increase in bank loans*	*Increase in investment*	*Rise in output*
Monetary Contraction	*Fall in bank deposits*	*Decrease in bank loans*	*Decrease in investment*	*Fall in output*

Source: Author

However, the bank lending path has been criticized on the basis that the banks play an insignificant role in the financial market in the presence of the new financial instruments and innovations. (Edward & Mishkin, 1995). The bank lending path is found to be ineffective (less effective) in case of firms and more effective in case of households (Ciccarelli et. Al., 2010).

(ii) **The Balance Sheet Path:**

The balance sheet path is mainly concerned with firms as it is functional through net worth of the business firms. This path shows effect on net worth of firms and also firms' capacity to borrow from the market of any monetary action. Under balance sheet path, a monetary expansion will cause a fall in the equity prices of the firms and fall in net worth which leads to decline in investment expenditure and consequently aggregate demand and output declines. The effect of monetary expansion and contraction are summarized in the table - 4 given below:

Table – 4

The monetary policy action through balance sheet path

Monetary Policy Action (M)	**Effect on equity prices of firm (P_e)**	**Effect on net worth (NW)**	**Effect on degree of adverse selection and moral hazard (H)**	**Effect on investment (I)**	**Effect on Output (Y)**
Monetary Expansion	*Rise in equity prices*	*Increase in net worth*	*Increase in degree of adverse selection and moral hazard*	*Increase in investment*	*Rise in output*
Monetary Contraction	*Fall in equity prices*	*Decrease in net worth*	*Decrease in degree of adverse selection and moral hazard*	*Decrease in investment*	*Fall in output*

Source: Author

The literature on monetary economics has highlighted the asset effect (price effect) and the rational for the same has been put forward by the balance sheet path. But it is interesting to know that this also transmits through the interest rate hence the basic transmission mechanism in case of India will remain the same as explained above since only the variables involved changes. The effect of monetary expansion and contraction is summarized in the table -5 given below:

Table – 5
The monetary policy action through balance sheet path

Monetary Policy Action (M)	**Effect on Real Interest Rate (i)**	**Effect on Cash flow (CF)**	**Effect on degree of adverse selection and moral hazard (H)**	**Effect on investment (I)**	**Effect on Output (Y)**
Monetary Expansion	*fall in interest rate*	*Increase in cash flow*	*Decrease in degree of adverse selection and moral hazard*	*Increase in investment*	*Rise in output*
Monetary Contraction	*Rise in interest rate*	*Decrease in decrease in cash flow*	*Increase in degree of adverse selection and moral hazard*	*Decrease in investment*	*Fall in output*

Source: Author

The Asset Price Path

The asset price path of monetary transmission basically works when monetary action causes changes equity and real estate and which further affects the consumption and investment by households and firms through wealth effect. (Dua, P., 2020). The close association between money and the equity price sets basis for the operation of monetary transmission through the asset price mode. Monetary tightness causes a decline in equity prices which creates fall in market value of financial asset as a result the consumers and firms financial position becomes week hence, they tend to reduce their expenditure and consequently there is a significant fall in the aggregate demand and output. The effect of monetary expansion and contraction is summarized in the table - 6 given below

Table – 6
The monetary policy action through asset price path

Monetary Policy Action (M)	**Effect on equity prices of firm (P_e)**	**Effect on Value of financial assets (FA)**	**Effect on the degree of financial hardship (FH)**	**Effect on consumption spending (C)**	**Effect on Output (Y)**
Monetary Expansion	*Rise in equity prices*	*Increase in the value of financial assets*	*Decrease in degree of financial hardship*	*Increase in consumption spending*	*Rise in output*
Monetary Contraction	*Fall in equity prices*	*Decrease in the value of financial assets*	*Increase in degree of financial hardship*	*Decrease in consumption spending*	*Fall in output*

Source: Author

The Expectation Path

The expectation path works through the expectation which they may have about the macroeconomic variables in the economy as their expectation influences their spending and investment decisions. The improvement in the functioning of the market depends upon potential of participants in the market based on information they have regarding the economic condition of the country. However, this path puts forward various uncertainties with regard to the shaping and managing the expectation of the

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participants. The central banks use speeches and research publication for influencing the expectations of the market participants (Reddy, Y. V., 2001, 2006). Under the expectations path change in monetary stance influences the expectations of the participants about output and inflation which further influences aggregate demand (Dua, P., 2020). Monetary expansion and contraction effects are summarized in the table - 7 given below:

Table – 7

The monetary policy action through expectation path

Monetary Policy Action (M)	**Effect on expectations of participants (Ex)**	**Effect on consumption and Investment spending (C & I)**	**Effect on Output (Y)**
When Central Bank communicates the monetary expansion	*The participants expects that there will be fall in the interest rate*	*Increases in consumption and investment spending*	*Rise in output*
Monetary Contraction	*The participants expects that there will be rise in the interest rate*	*Decreases in consumption and investment spending*	*Fall in output*

Source: Author

Conclusion:

In almost all the countries of the world whether they are developed or emerging market economies, the monetary policy transmission has taken place through the different paths and India is also no exception to this. However, all the paths work simultaneously and therefore it is very difficult to examine their individual effect, but at the same time, few research studies have suggested that the interest rate path seems to be dominating in most of the countries across the globe. Therefore, the central banks are suggested to formulate the tailor-made strategies in context of economic scenario prevalent in the country for materializing the ultimate goals of economic growth and the price stability.

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