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MONETARY TRANSMISSION MECHANISM IN
MALAYSIA: MONEY VIEW VS. CREDIT VIEW

BY

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ABSTRACT

Advocates of credit view argue that fluctuations in the supply of both money and bank loans have significant impact on the real economy. The traditional money view however maintains that it is sufficient to consider only money in analyzing the future direction of the economy. This paper investigates whether there is any causality running from bank loans to output using the standard Granger causality framework with rational expectation. The results indicate that major shocks to money as well as bank credits have significant real consequences on output. Thus, if Malaysian banks curtailed their supply of loans, real GDP growth would slow down. The evidence is therefore *supportive of the credit view theory* of monetary transmission mechanism

ملخص البحث

يرى مؤيدي نظرية التسليف وفكرتها أن عدم الاستقرار في التزويد لكل من المال وقروض البنك يؤثر بشكل كبير على حقيقة الاقتصاد ونجاحه. ومن ناحية أخرى، فقد أكد أصحاب نظرية المال التقليدي أن النقد وحدها هي الأساس الأسمى والمعيار الفعال لمعرفة اتجاهات الاقتصاد في المستقبل

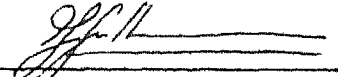
وعلى ذلك، يهدف هذا البحث إلى البحث عن القاسم المشترك والعلاقة السببية بين قروض البنوك والإنتاج، مستعملاً مقياس السبب والمسبب لصاحبه غرنجر (Granger) بالإضافة إلى نظرية التوقعات المعقولة (Rational Expectation) كطرق التقويم.

وتشير نتائج البحث أن معانات المال وقروض البنوك من صدمات السوق غير العادية تؤثر بشكل ملموس على الإنتاج. ومن هنا يرى الباحث أنه إذا استطاعت البنوك الماليزية أن تقلص من تسليفاتها فسيبقى نمو الإنتاج المحلي الإجمالي (GDP) معتدل وأكد الباحث أن الحقائق التي ظهرت خلال البحث تؤيد نظرية التسليف وفكرتها المتعلقة بنظام الانتقالات المالية وطريقتها

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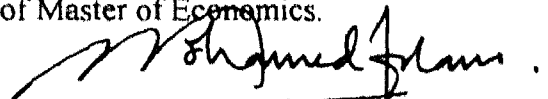
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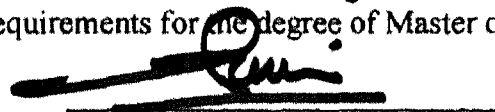
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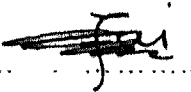


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DECLARATION

I hereby declare that this research is the result of my own investigation, except where otherwise stated. Other sources are acknowledged by footnotes giving explicit references and a bibliography is appended.

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In memory of my beloved father,
Alhaji Abakar Ganye,
who thinks that the greatest asset a
parent can bequeath to a child
is good education.

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CHAPTER 1

INTRODUCTION

Economists and policymakers have long agreed that monetary policy has significant real effects on the economy, at least, in the short run. However, the question as to how this policy is exactly transmitted to the real economy is far from resolved. The conventional textbook approach, herein called the money view, suggest that monetary policy affects the real economy by working through the liability side (money) of the banks' balance sheet.¹ According to this view, a contractionary monetary policy, which decreases bank reserves, will limit the ability of banks to create transaction deposits (money) thereby raising the cost of holding money. As money becomes more expensive to hold—that is, nominal interest rate rises, households will substitute money by holding more bonds. The increase in interest rate leads to a fall in all interest-sensitive investment. This in turn leads to a fall in output and employment. Thus monetary policy affects the real sector by working through the interest rate. Hence the name “Interest Rate Channel” is sometimes used to describe this channel of monetary transmission. Obviously, the asset side of the banking sectors' balance sheet (the supply of loans) has no role in the described mechanism.

An alternative, and perhaps a contending view, holds that to understand the total effect of monetary policy on the real economy, it is not sufficient to consider the liability

¹ For example see Froyen (1996) and Felderer and Homburg (1987).

side of the banking sectors' balance sheet alone.² The asset side (i.e. loans) requires special consideration as well (Bernanke and Blinder 1988).³ This latter view, known as the credit view, contends that changes in banks' loan supply as well as changes in their ability to create transaction deposits have significant implications on the real sector. As an extension of the traditional money view, the credit view argues that firms may have the notional desire to produce goods and services.⁴ They may however, require bank credit to finance inventory purchases and other expenses. If banks refuse them credits (which are assumed to have no close substitute) investment and production will certainly fall. Yet, changes in interest rate have not been mentioned here. The existence of this direct credit channel from monetary policy to bank lending makes it possible to carry out monetary policy without large changes in interest rates (Morris and Gordon 1995). This view helps to explain what has been termed as 'liquidity puzzle'— a situation where monetary contraction fails to increase the interest rates. In this context a prediction based solely on the traditional interest rate channel (money view) will underestimate the impact of such policy on the real variables. In other words, information contained in both money supply and the supply of bank loans is valuable in analyzing the future direction of the economy.

² Banking sector in this paper refers to the banking industry, which comprises the commercial banks, finance companies and merchant banks.

³ For the explanations of the other channels of monetary transmission mechanism see papers on "symposium the monetary transmission mechanism" *Journal of Economic Perspective*.9 (4): 3-96.

⁴ Perhaps due to higher profit expectation or increase demand.

This analysis of possible transmission mechanism through credit is highly relevant in the Malaysian context given the fact that the government places great reliance on the distribution of credits in pursuit of its social and economic order policy. The volume and direction of bank lending influences not only the level of liquidity and inflation in the system but also the overall level of productivity, resource allocation and the social economic order envisioned by the government.

In general a proper understanding of the means (transmission mechanism) by which monetary policy action affects the economy is crucial for addressing important policy questions. What monetary policy variables should be used as intermediate targets? And what types of policies should be used to fine-tune business cycles? Granted that monetary policy has a real effect through the interest rate channel, by what magnitude should the authorities increase or decrease the interest rate to achieve the desired effect on the economy? Apart from addressing these questions, understanding of the issues may help in the selection of appropriate monetary policy rule, and may also enable us to avoid the unexpected and sometimes undesirable consequences associated with monetary policy. Monetary policy could be a powerful tool in shaping the future direction of the economy. However, to be successful in using it, the monetary authorities must not only have a good understanding of how it works but also an accurate assessment of its impact and the timing of its effects on the real economy.

A Considerable number of studies have examined the money-output (or money-inflation) relationship in Malaysia. Included among such works are Jusoh (1986), Hwa

Siew (1987), Tan and Cheng (1995) and Ibrahim (1997), to name a few. In spite of the popular notion that Malaysians live on credit, we do not know of any credible work that studies the relevance of the credit channel to the Malaysian economy. An attempt was made to remedy this imbalance by an article entitled "*Direction and Impact of Bank Lending in Malaysia*", which appeared in the Public Bank's January-February (1998) *Economic Review*. But, as admitted in the article, the econometric model used is woefully inadequate and it ignores the recent significant strides made in econometric modeling. A number of important independent variables were ignored and the sample size used (1990-97) was too small to provide statistically credible results. Perhaps the most serious defect of the work is its failure to check the direction of causality between GNP and bank credit.

The purpose of this project is therefore to conduct a proper test on whether bank credit provides an additional channel through which monetary policy affects the real sector. It is hoped that the outcome of this research will help solve the dilemma usually faced by policy makers such as whether to continue monitoring money, credit or both. It is believed that the results of this work will help address the questions raised above. Chapter 2 of this paper describes the theoretical framework and the conceptual differences between the money and credit views. Chapter 3 reviews the empirical evidence supporting the contending views. Chapter 4 explains the econometric methodology and the data used in the analysis. Chapter 5 then presents the results and findings. The last chapter offers the conclusion of the paper.

CHAPTER 2

CONTENDING VIEWS OF MONETARY TRANSMISSION MECHANISMS

The Money View

The money view represents the key monetary transmission mechanism in the mainstream Keynesian/Monetarist IS-LM model in which interest rates play a central role. According to this view, reserves serve as a policy tool because they are used to generate transaction deposits. There are two important premises underlying this model: first, household portfolio is strictly allocated between money and 'bonds'⁵ and second, monetary authorities (Central Bank) are assumed to have absolute control over the supply of money, which is used for transaction purposes. With these conditions in place, it is easy to see how monetary shocks can have real effect. Suppose the authorities embark on an expansionary policy by making more reserves available to banks.⁶ The effect could be a decline in the rate of interest as it means a rise in transaction deposits, which lowers its valuation in the eyes of household and hence its price (interest rate). With a reduction in interest rate, the demand for all interest sensitive components of aggregate demand increases. Demand for input supply and the general level of economic activities will rise in line with the demand. The case for

⁵ Bonds here are defined to include all financial assets except money, which in this case comprises currency in circulation and checkable deposit.

⁶ Either by reducing the fractional reserve requirement on deposit or open market operation.

contraction works in the following manner. When deposits available to household decline as a result of drainage of reserves from commercial banks by the central bank, the valuation of such deposits increases in the eyes of the households, leading to an increase in interest rates foretelling a decline in investment and output.

It is important to note that for the changes in the interest rate to produce real effect, Lucas's workers' misconception about the price level and or the Keynesian sticky prices must come into play.⁷ In other words, for monetary policy to have real effects, prices must not adjust immediately to the changes in money supply. In this framework, the desire of banks to lend matters only in respect to its influence on the creation of transaction balances (i.e. deposits). Thus the initial impact of monetary policy on interest rates arises from the special characteristics of the liability side of banks' balance sheet; while the asset side plays no role (Romer and Romer 1990). The conventional IS/LM explicitly explains this channel and needs no discussion here.

It is clear from the above that the conventional monetarist channel relies on the ability of the authorities to move the interest rate which in turn depends on their power to control money supply (means of exchange). But with money becoming more and more difficult to define economists are becoming more skeptical about the ability of financial authorities to cause economic downturn by causing a shortage of a subset of

⁷ Both sticky prices and worker misconception posit a short run real effect. Some economist however claim money could have long-run real effect Bernanke (1983) cited the inability of existing theories to explain the long run impact of money as one of the reasons, which calls for a new search of channels.

money. Suppose for example, the authorities wish to dampen the rate of growth by decreasing money supply in order to increase the interest rate. The policy (as envisaged by the monetarists) will be neutralized if economic agents can use other financial assets (like the money market mutual fund and credit cards) as substitutes for transaction purposes. This problem stems from the two-asset distinction underlying the traditional model, which precludes the inclusion of the credit market in the analysis of monetary transmission. Aside from this, the conjecture of worker misconception and stickiness of prices is hardly convincing (not to mention its inability to explain the long-run effect of money on output) and both stories rely on the key role played by movements in real balances and real interest rates. Yet as noted by King (1986), neither substantial movements in the anticipated real rate nor large interest elasticity were apparent in spite of the dramatic growth recorded in real output over the last 35 years.⁸ This fact notwithstanding, the empirical correlation between money and output continue to hold in a number of western economies. To worsen matters, the long-standing money-output relationship taken for granted by economists and policymakers alike started to misbehave in the early 80s.⁹ It was therefore felt that the time has come for a search into other possible channels through which financial aggregate affects the real sector.

⁸ Bernanke and Blinder (1988 and 1992) have consistently argued that quantitatively changes in money supply do not explain the changes in real output

⁹ See lessons on Monetary Policy from the 1980s by B. Friedman (1984 and 1988).

The Credit View

The credit view evolves in response to the problems associated with the conventional model. The model is built on the premises that the household's portfolio is made up of three important items namely, bonds, money and bank loan. It is important to note that for this channel to operate, the following two crucial assumptions must be held:

- 1 The ability and willingness of banks to supply loans must not be insulated from shocks to reserve sensitive policies. That is to say, the monetary authorities must be able to engineer a contraction or expansion in the supply of bank loans through their monetary tools like reserve requirements, open market operation and changes in interest rates.
2. Banks must be so special that certain expenditures financed by them will not be made if they curtail loans supply. In other words, some sections of the business community must be so dependant on banks that they will not be able to obtain alternative sources of funding to finance their operations if the banks refuse them credits. According to this view, their dependency on bank stems from information asymmetry and the role of banks in the financial sector.¹⁰ Banks do have advantage in making loans to such small borrowers because of their large scale operation, specialization in monitoring, information gathering and repeat business; this enables them to make loans at a cost cheaper than that of the open market.¹¹ Our test will concentrate on this latter condition of the credit view.

¹⁰ Gertler and Gilchrist (1993) gave a detail exposition on the role of information asymmetry on transmission mechanism

¹¹ For explanation of the role of banks in transmission mechanism see Bernanke (1983)

The intuition behind the credit view is based on the following observation. In a world where the problem of information asymmetry is real, the size of a firm as well as the state of its net worth has a repercussion on its ability to obtain bank loans. Under the circumstances there will be no substitutes for loans from commercial banks for small and medium-scale businesses that cannot issue securities in the open market. As a result of this contraction in bank reserve engineered by monetary policy, the amount of loan supplied by banks will be reduced. Aggregate spending by bank-dependant businesses will fall and so will output and employment. Blinder (1987) puts the idea in a more simple language “ Firms may have a desired or ‘notional’ supply based on relative prices, expectations and other variables. But they may need credit to produce the goods. If the required credit is unavailable, they may be a ‘failure of effective supply’ in which firms fail to produce as much as they can sell.” (P328). It is clear that money or the liability side of bank’s balance sheet have no role to play in this process. An important implication of this analysis is that any disruption in the operation of banks will unleash damaging consequences on the real sector (Bernanke 1983). A number of models explaining the credit channel have been put forward by economists.¹² We intend to discuss two of the models in the next chapter.

Before then the distribution effects and efficiency losses implied by the two channels is worth taking note of. In the traditional money view, the impact of changes in monetary policy is limited to the required rate of return on new investment projects. Hence only the changes in total investment is important. So it is reasonable to assume

¹²For other models See Bernanke and Blinder (1988), King (1986), Blinder (1995) KSW (1993).

in aggregate terms that, only the least profitable project will not be funded (Cecchitti, 1995). Since the more socially desirable projects will continue to be funded there is not much to worry about in terms of welfare loss. On the other hand, the credit view, by highlighting the problems of imperfection in the capital market and the dependency of businesses on bank loans, recognized the possibility of the incidence of monetary policy falling more on small and medium scale businesses than on large firms. The cost could be enormous in case of contraction if such businesses dominate the economy. There is a concern that the incidence of the policy may not reflect the inherent creditworthiness of the project in question. For policy purposes it is important to know whether or not monetary policy has the above implications.

Movements in Bank Balance Sheet

Because the credit view depends crucially on the behavior of banks, our discussion on the subject will not be complete without considering movements in bank's balance sheet after a monetary shock. Consider the following stylized balance sheet (Table 1.A in page 12). The modeled bank has two assets, reserves and securities. The liability side is made up of only checkable deposits and capital. Open market operations that decrease reserves will cause interest rate to rise and induce individuals and firms to hold fewer checkable deposits until checkable deposits have declined sufficiently enough to bring required reserves back in line with available reserves, with banks holding fewer bonds and individuals holding more. Thus, the transmission mechanism operates solely through the cost of capital, as interest rate increase to equate the

demand and supply of money. This then is the mechanism commonly referred to as the money view or the interest rate channel.

To consider how the credit channel may arise, consider a more realistic balance sheet in table 1.B. The balance sheet 1.B has three assets: reserves, securities and loans. It also has three liabilities: checkable transaction deposits, non-checkable deposits and capital. In this case an open market operation that decreases reserves can have additional effect that operates through the asset side of the bank balance sheet. The decrease in the reserves decreases the transaction deposits, and this, if not offset by an increase in non-checkable deposits or a decrease in securities holdings will result in a decrease in loans. Thus, a necessary condition for the operation of the credit channel is that banks must not be able to insulate loans supply against monetary policy a condition, we have discussed above. Thus, according to the credit view both the asset side and the liability side of the bank balance sheet are important in the monetary transmission mechanism

Table 1: Bank Balance Sheet.

A. Assets	Liabilities
Reserves (R) Securities (S)	Checkable Deposits (D) Capital (C)
B. Assets	Liabilities
Reserves (R) Securities (S) Loans (L)	Checkable Deposits (D) Non-checkable deposits (NCD) Capital (C)

CHAPTER 3

THEORETICAL MODELS

A number of theoretical modeling of the credit view has been suggested in the literature.¹³ We discuss here a model suggested by Bernanke and Blinder (1988) and that by Romer and Romer (1990). First we consider that of Bernanke and Blinder.

Bernanke and Blinder (1988) Model

Bernanke and Blinder (1988) attack the traditional models of monetary transmission mechanisms such as the standard textbook IS/LM model that assigns a special role for money, the bank liability, in the determination of aggregate demand. They decried the apathetic attitude towards bank loans, the asset of banks, by viewing it as a perfect substitute with other debt instrument in the bond market.¹⁴ This treatment robs bank loan of any special role in the distribution of monetary shocks to the real economy. They argue that the instability of the econometric money-demand function in the early 80s and the importance of information asymmetry coupled with the crucial role of intermediaries in the financial market call for another look at the role of credit in the transmission mechanism.

¹³ For more detailed description of the credit channel see Bernanke and Blinder (1988 & 95) King (1986) KWS (1993) and note 1.

¹⁴ This attitude made it convenient for economist to suppress credit under the Warasian law and their monetary transmission analysis.