A VAR Approach to the Determination of Interest Rates in the Caribbean

Patrick Kendall
Caribbean Development Bank
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INTRODUCTION

Arguably there is theoretical consensus on the importance of lending rates, given their impact on general economic activity. In the Caribbean context, lending rates are assuming an increasingly important role, due to the need to finance the restructuring of economies faced with the diminution of trade preferences, a drop in the level of official aid and the uncertainty of external private sector inflows. Apart from influencing the level of investment, lending rates will play an important part in determining the competitiveness of export activity and hence the sustainability of economic growth and development. While the foregoing is incontrovertible, there is no consensus on the process of interest rate determination. Perhaps, even more importantly, there is little analysis and hence understanding of the dynamic interactions among policy action and firm response that yield the interest rate outturns that play such an important role in economic activity. The study attempts to address this deficiency in the empirical literature so that a deeper understanding of the intricacies of monetary policy may be possible.

The first section provides a review and critique of the empirical literature. The second section presents the empirical model while the third discusses the results.

A. LITERATURE REVIEW

The monetarist approach to monetary policy was based essentially on the targeting of monetary aggregates on the assumption of a fixed relation to income and prices. Empirical analysis using data from the late seventies following the second oil shock, however, severely challenged this assumption and led to intense questioning of monetarist theory (as embodied, for example, in the IS/LM model) and policy (Friedman (1988); Brunner and Meltzer (1988); Mishkin (1995). This resulted in a spate of theoretical and empirical literature on the transmission processes of monetary policy. While the cost of capital (interest rate channel) remained secure as an important link between monetary policy and economic growth through its impact on investment and consumption [(Taylor (1995)); Morsink and Bayoumi (1999)], analysts explored new avenues through which monetary policy may be affecting output and prices.

The new theory explored in particular the lending behaviour of banks in response to monetary policy changes. It recognised the important but separate role played by the impact of monetary policy on the net asset position of commercial banks (bank lending channel) (Bernanke and Blinder (1992) and of the business sector (balance sheet channel), both of which influence banks' desire to lend with the latter also influencing business sector borrowing decisions through the external finance premium (Bernanke and Gertler (1989,1995) Bayoumi (2000).[1] In the case of the bank lending channel, particularly emphasised is the impact on firms that are largely dependent on bank financing. In industrial countries, small and medium-sized enterprises have tended to be particularly affected by changes in bank lending quite unlike large firms which have access to other sources of financing such as equity etc. Improved net worth in a cyclical upturn increase the demand for investment funds and the ability of small and medium-sized firms to borrow through provision of increased collateral security. In the case of the commercial banks, reduced concerns about adverse selection and risky behaviour (moral hazard problems) on the part of firms also increase the willingness to lend. The reverse occurs in a cyclical downturn. The impact on household assets (wealth effect) and hence on consumption has also been identified as another route through

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[1] The external finance premium is the difference between the cost of a firm's internal and external financing. The higher the net worth of the firm, the lower tends to be the premium because of the ability to access funds at lower rates. See Bernanke and Gertler (1995), p. 35.

which monetary policy influences aggregate demand and hence output and prices.[2] Taylor's (1995) version of the transmission process focused on the impact of monetary policy on aggregate demand (via net exports) and output through exchange rate adjustments induced by interest rate changes and related capital flows.

Caribbean literature on the transmission mechanism of monetary policy includes Watson (1996); Robinson and Robinson (1997); Baksh and Craigwell (1997); Border and Montaubaum (1999); Greenidge and Warner (1999). Using quarterly data for Trinidad for the period 1970:1 to 1995:4 in a vector autoregression (VAR) model which included eight variables - Treasury Bill rate, exchange rate, interest rates on loans, total bank deposits and loans, *income, unemployment* and the price level, Watson investigated the impact of monetary policy as embodied in the Treasury Bill rate on employment, income and prices. He found that while both money (deposits) and credit (loan) play an important role in the monetary transmission process, the money channel was dominant particularly with respect to output and employment. However, because of the highly aggregative nature of the data used, he urged caution in the interpretation of the results.

The study by Robinson and Robinson (1997) of the Jamaican economy evaluated the effectiveness of the money (interest rate/ reverse repurchase rate) and credit (banks' balance sheet/ portfolio adjustments) channels as transmitters of monetary policy in the attainment of important macroeconomic targets (prices, output). Using vector autoregression and monthly data for the 1991-97 period, the study finds that both channels are effective with the relatively greater impact being recorded, however, by the money or interest rate channel.

On the basis of the relative inelasticity of the curves in the IS/LM/BP model together with the underdevelopment of asset markets, Baksh and Craigwell (1997) reject the applicability of the transmission mechanisms discussed above to the small open economy, in this case specifically Barbados. They argue that the transmission of monetary policy on output and prices in the small open economy may be more via its impact on the non-traded sector. Using linear regression, they formally tested this hypothesis in a single equation model that included as the dependent variable real output in the non-traded sector and as regressors real disposable income, a vector of taxes, interest rates, real tourist expenditure, real government expenditure and real money balances. The period of analysis was 1967 to 1992. Their empirical findings supported the hypothesis of a transmission channel through the non-traded sector specifically via the level of real balances. However, they concluded that the impact would be temporary.

The study by Greenidge and Warner (1999) had a somewhat different focus. Using Granger casuality and VAR analysis, the study investigated the impact of US output, real money balances and interest rates on Barbadian economic performance. The difference with the previous study is the focus on the international transmission of monetary influences. Basing their analysis on quarterly data for the period 1974 to 1998, Greenidge and Warner (1999) found a negative relationship between US interest rates and real output of the Barbadian economy. They found, however, that real money balances in the US had a positive effect.

The work of Borda and Montauban (1999) followed in a similar vein that of Greenidge and Warner (1999). Using VAR analysis, the study investigated the sensitivity of twelve Caribbean economies to changes in US monetary

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[2] Together the bank lending channel and the balance sheet channel have also been referred to as the credit channel (Mishkin (1995)) or lending channel (Meltzer (1995). The important addition of this theory was the explicit recognition of the critical role of asset markets as part of the transmission process (Meltzer (1995)). The same is true, of course, of the wealth effect. Note that both the traditional Keynesian investment theory and the new credit channel theory have also been attacked in the neo-monetarist critique for their limited treatment of the asset market in the link between monetary policy and aggregate demand (Mishkin (1995); Meltzer (1995)).

policy during the period 1979 to 1994. The variables included in the VAR were output, exchange rate, consumer price index and the US Federal Fund rate. The sample of countries was divided into an OECS and a non-OECS sub-sample. Borda and Montauban (1999) found that changes in the US interest rates had a significantly greater impact on output in the non-OECS countries, the reverse being true with respect to inflation. They also found that exchange rate changes had a greater impact on output and inflation in both sets of countries, though with a relatively more muted response in the case of the OECS.

While the empirical literature (Bernanke and Blinder (1992); Greenidge and Warner (1999); Borda and Montauban (1999) have established the link between the interest rates and major macroeconomic variables, little has been done to elucidate the dynamic interaction between monetary policy action and lending rate outcomes which is the focus of this paper. Ultimately, effective transmission of monetary policy depends on success in attaining the intermediate targets (interest rate, money supply, exchange rate).

B. THE MODEL

The empirical underpinnings to the monetary transmission literature was a series of regressions, including the use of Granger causation analysis, examining the relationship between monetary policy and several macroeconomic variables - income, employment, prices. Most common, however, has been the use of vector autoregression analysis (VAR) and particularly of impulse response functions, leading to a more detailed and intimate understanding of the dynamics of monetary policy (Bernanke and Gertler (1995). It is this approach that will be used in this paper to provide a better understanding of monetary policy and specifically the determination of lending rates in the nineties.

According to Mishkin (1995), "Monetary policy is a powerful tool, but one that sometimes has unexpected or unwanted consequences. To be successful conducting monetary policy, the monetary authorities must have an accurate assessment of the timing and effect of their policies on the economy, thus requiring an understanding of the mechanisms through which monetary policy affects the economy"[3]

Using the VAR model, the study analyses the dynamic interaction among six key rates in the monetary sector-lending rates, deposit rates, the reserve ratio, the discount rate, Treasury Bill rate and the US Treasury Bill rate. This approach essentially follows that of Taylor (1995) who emphasised that it is the various rates/prices that send the signals to the real sector rather than the monetary aggregates. Hence, he argues, these rather than the monetary aggregates ought to be the focus of study. The study covers six Caribbean countries (Bahamas, Barbados, Belize, Guyana, Jamaica, Trinidad) over the period 1991 to 1998 using quarterly data. The data was obtained from the IMF Financial Statistics and Central Bank data publications from the six countries.

The VAR is an empirical model unencumbered by theoretical priors that facilitates statistical analysis of relationships among variables. However, the meaningfulness of the exercise depends on the intuitiveness of the results. In dynamic environments such as the financial sector which has been undergoing several changes in the nineties and is still in a state of flux, it is an extremely useful tool not only for understanding the old but also for discovering new relationships. The model hypothesises that every endogenous variable in the system is affected by its own lagged values and those of other endogenous variables as indicated below:

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[3]Mishkin (1995), p.2.

$$Y_t = A_i Y_{t-i} + B X_t + \varepsilon_t$$

where the Y_t and X_t are vectors of endogenous and exogenous variables respectively, A_i and B are coefficient matrices, ε_t are contemporaneously but not serially correlated error vectors that are also uncorrelated with the regressors.

As in the case of the Bernanke and Gertler (1995), Bayoumi (2000) and other studies, it is the impulse response functions of the variables to various shocks that is the focus of the analysis since they provide greater elucidation as to the impact of various types of monetary policy as compared with the statistical results. The use of impulse response graphs also allows a view of the differential impact of similar policies across the region and a better understanding of the varying degrees of effectiveness of similar policies. The graphs capture the response of lending rates to one standard deviation shocks to the lending rate and other variables in the six countries under consideration.

One of the potential weaknesses of the VAR model is that the errors may not be orthogonal because of responsiveness to similar influences (level of economic activity, external shocks etc.).In this model, the Choleski decomposition which is a recursive process, has been used to ensure orthogonality. However, other methods of orthogonalisation have also been used in the literature (Ramaswamy and Rendu (2000)).

The VAR model with variables in levels is used together with two lags. Using the Johansen test of cointegration, there was at least one cointegrating vector for all countries. The regression results were very satisfactory especially with respect to goodness of fit. The R^2 for all variables was greater than 0.70 and the residuals for all regressions were stationary, most at the 1.0% level of significance.

Given the potential sensitivity of the VAR results to the ordering of the variables, two orderings were used. In the first case, the lending rate was placed at the beginning followed by the deposit rate, the discount rate, the Treasury Bill Rate and the reserve ratio. Weighted lending and deposit rates were used. In the second case, a similar ordering of variables was maintained with the lending rate placed last. The US Treasury Bill rate was used treated as an exogenous variable. With the very few exceptions mentioned below, there was no significant difference in the resulting impulse response functions, indicating that the error terms were, in fact, for the most part orthogonal. The discussion is divided into six segments, looking at the impact of the variables on lending rates.[4]

[4]In the graphs and variance decomposition tables presented in the appendix, the following abbreviations and suffixes were used: WTDLR= Weighted Lending Rate; WTDEPR = Weighted Deposit Rate; DR = Discount Rate; RRR = Reserve Ratio; TB = Treasury Bill rate; BAH = Bahamas; BD = Barbados; BEL = Belize; GUY = Guyana; JAM= Jamaica; TT = Trinidad.

C. EMPIRICAL RESULTS

(a) Lending Rates

Shocks to lending rates can emanate from various sources. For example, lending rates can rise sharply as a result of liberalisation of the financial sector as happened in the case of Guyana and Jamaica during their structural adjustment programmes in the late eighties and early nineties. In addition to the unrepression of interest rates, the escalation in lending rates was also due to the devaluations that were part of the structural adjustment programmes. Shocks to lending rates can also result from substantial public sector borrowing related, for example, to rehabilitation efforts after a natural disaster or the desire to stimulate economic activity in the classic Keynesian tradition following sharp falls or continuing weakness in prices of major commodity exports (for example, oil in Trinidad or bananas in the Windwards). The question is, how is the financial sector likely to respond to these shocks? Are there similarities or differences in their response? Why?

In all cases except Barbados and Guyana, the response to a lending rate shock is quite rapid. Within three to six quarters, the impact has more or less fizzled. In the case of Barbados and Guyana, however, the impact, though declining, is sustained beyond twelve quarters.[5] In the latter two cases, the response may reflect differences in the level of imperfect competition in the two markets as compared with other regional economies. In the case of Barbados, reduced flexibility may be due also to the imposition of a lending rate ceiling and deposit rate floor for at least part of the period. A third explanation as put forward by Cottarelli and Kourelis (1994) may be the different ownership structure in these two countries which have had a strong state presence in the industry. According to Cottarelli and Kourelis, commercial banking systems dominated by state banks show less responsiveness to monetary policy stimuli because of non profit-maximising behaviour. And hence the reduced flexibility of lending rates. The foregoing results do have important policy implications. A government seeking to rebuild, for example, after a natural disaster or seeking merely to stimulate growth in a stagnant economy will do well to contemplate the likely impact of its decision on interest rates and hence on private sector activity. The less flexible the financial sector in response to lending rate shocks, the greater may be the cost of an interventionist policy in terms of private sector growth foregone.

(b) Deposit Rates

As in the case of lending rates, deposit rate shocks can arise from various sources. For example, the fear of political instability can lead to a shift in liquidity preference in favour of currency, resulting in a rapid loss of deposits. Shocks to deposit rates can also emanate from banks' competition for deposits in a situation of tight liquidity. Also familiar is a shock to deposit rates through the imposition of a tax on the interest income of deposits. As a result of the tax on deposits, all other things being equal, the demand for deposits would be reduced because of a decline in net returns to depositors. Hence, a higher deposit rate would have to be forthcoming in order to elicit the same level of deposits prior to the tax.

[5]When the lending rate is placed last in the VAR, the response is negative and sustained in the case of Guyana. In the case of Barbados, the change in the lending rate fell sharply but soon rebounded on a sustained growth path beyond the twelfth quarter. These two represent the only cases in the entire analysis where the position of the lending rate has made a substantial difference with respect to the impulse response function.

The critical question, of course, is how do lending rates respond? Typically, the increased cost of funds should lead to a rise in lending rates and the impulse reaction functions in all cases do substantiate this point. The difference among the countries relates to the duration and intensity of the impact. In the case of Belize, Bahamas, Jamaica and Trinidad, the impact is fully played out within three to six quarters. Of these, the Trinidadian response is the smallest and most short-lived. In the case of Barbados and Guyana, the impact is sustained over more than twelve quarters. In Guyana, the variation in deposit rates accounted directly for between 50.0% and 60.0% of the variation in lending rates. In Jamaica, the range of the estimate was 30.0% to 70.0%. However, the deposit rate retained nevertheless its position as the principal direct determinant of the variation in lending rates. In the case of Barbados, empirical support for the dominance of deposit rates was somewhat weaker, but there was nevertheless support for the conclusion that deposit rates have been an important determinant of lending rates, both through its impact on the cost of funds and also indirectly through its influence on policy variables, notably the discount rate and the Treasury Bill rate. The same can be said for the Bahamas, Guyana and for Jamaica. The analysis establishes the importance of deposit rates both as a direct and, very importantly, as an indirect source of influence on lending rates and effectively establishes additional transmission channels for the determination of lending rates via deposit rates. As in the case of lending rates, the more sustained impact does imply greater real income loss through reduced investment.

(c) Discount Rates

For most countries, there has been at least some use of the discount rate during the period with an interesting variety of responses. Belize during this period has not used its discount rate at all and hence is excluded from this portion of the analysis. In the case of the Bahamas, the impact of a one standard deviation shock is sustained but not substantial. The initial size of the impact on lending rates is less than ten basis points and declining. The responses in Guyana and Jamaica are similar. The impact on the lending rate of a one standard deviation shock dissipates within three (Guyana) to five quarters (Jamaica). The case of Barbados is interesting in that there is a lag of about three quarters before the policy change is reflected in the lending rate. The impact dissipates, however, by the eighth quarter. The case of Trinidad is the most intriguing with the lending rate responding in the form of a damped sine wave. For a portion of the period, between the second and the sixth quarter, the impact is also negative, though not substantially so. Overall, the impulse response functions suggest that the discount rate has not been a very effective monetary policy tool for the transmission of monetary policy, a fact supported by the variance decomposition analysis, the exception being Jamaica where it was estimated that approximately up to 22.0% of the variation in lending rates was directly accounted for by the discount rate. With respect to the other countries, the estimate in the majority of cases was less than 10.0%.

(d) Reserve Ratio

Increases in the reserve ratio are used in an attempt to reduce the level of liquidity and excess reserves to slow the flow of credit. This implies essentially a rise in lending rates due to the reduced availability of loanable funds. However, banks may also respond by increasing the level of deposits via a rise in deposit rates so as to ensure the continuation of some lending. The response of the commercial banking sectors in Trinidad and Barbados to a rise in the reserve ratio fulfills these theoretical expectations. The deposit rates in both cases rise and are mirrored by lending rates. The response of the banking sector in the case of the other four territories is intriguing. A rise in the reserve ratio is accompanied by a fall in the deposit and lending rates.[6] A possible explanation is the attempt by banks to pass on to depositors the increase in cost by lowering deposit rates.[7] This may occur for example in a situation of substantial excess liquidity and/or a weak market for loanable funds. There is no reason to attract additional deposits. Banks therefore protect profit margins/spreads by reducing both deposit and lending rates. All other things being equal, the rate of growth of deposits, at least in the short run, is slowed while excess liquidity is converted into loans, perhaps at a faster rate, a perverse response to what is meant to be a contractionary monetary policy. An alternative explanation is that, given the substantial foreign ownership of banks in the region, access to cheaper external financing reduces the cost of funds which is then passed on to borrowers in the form of lower lending rates. The existence in bank portfolios of large borrowers, many of whom may be exporters with access to external markets, can also force domestic banks to circumvent the restrictions of contractionary monetary policy in order to retain their patronage. This review of the banks' response to reserve policy is instructive in that it demonstrates emphatically that the effect of policy depends critically on the response behaviour of banks. Effective transmission of monetary policy becomes extremely difficult without the cooperation of the commercial banking sector which ultimately will be guided by portfolio/profit considerations.

(e) Treasury Bill Rate

Discussion on the impact of the Treasury Bill rate as a policy tool takes place against the background of attempts by regional governments to marketise these rates and hence move monetary policy away from an overdependence on direct policies (discount rates, reserve ratios). However, the empirical results present no consistent response pattern in the lending rate. In Guyana's case, a shock to the Treasury Bill rate results in a decline in both the deposit and lending rates, a response similar to that of the reserve ratio. The Belizean response is similar only with respect to the lending rate. The deposit rate rises, implying a reduction in the interest rate spread. In the case of Barbados, the impact on the lending rate is close to zero for five quarters and becomes slightly positive thereafter. In fact, the variance decomposition analysis shows that the Treasury Bill rate accounts for less than 10.0% of the variation in the lending rate. The impact of a shock to the Treasury Bill rate is close to zero in the case of Jamaica.

The Trinidad and the Bahamian responses are the strongest and most consistent with theoretical expectations. This may be because the securities is most developed in these two territories. In the Trinidad banking sector, a one standard deviation shock to the Treasury Bill rate is the policy innovation that elicits the strongest response from the lending rate, the response lasting seven quarters before fizzling out. This reflects not only the direct impact as a result of the increase in the cost of funds,

[6] Morsink and Bayoumi (1999) report a similar response in the case of Japan where increases in the money supply have been accompanied by increases in interest rates. In empirical literature on the U.S., this finding is reportedly quite common. Morsink and Bayoumi (1999), p. 9.

[7]The reserve ratio is seen essentially as a form of taxation of the banking sector. The higher the ratio, the higher the rate of taxation.

but also indirect influences via the increase in deposit rates and policy adjustments via the reserve ratio. A similarly strong response to Treasury Bill innovations is evident in the Bahamian banking sector. In the latter case, however, the variance decomposition analysis shows that while not having the major direct impact on lending rates as in the case of Trinidad, there is substantial influence via the impact on deposit rates and through adjustments in the discount rate, underscoring once again the existence of multiple routes for the transmission of changes in monetary policy. Overall, it can be said perhaps that the financial sector in most territories is still struggling with the marketisation of Treasury Bill rates as an important policy tool. This may be as a result of confusion at the policy level as governments continue to use both direct and indirect policy instruments and/or a reflection of the underdevelopment of securities markets. Hence, monetary policy in the region can be said to be essentially in a transition phase.

D. CONCLUSION

An important conclusion of the study is the divergence in lending rate responses across the region to similar monetary policy shocks. The differences in response relate not only to the magnitude but also to the duration of the response as in the case of Barbados and Guyana vis-a-vis lending rate and deposit rate shocks. There can also be differences in the direction of change in lending rates as pointed out in the discussion of the reserve ratio. In the case of Treasury Bills, it has been difficult to discern a consistent response pattern. These empirical findings do raise the thorny issue of regional monetary policy and the very real possibility of individual, divergent country responses to a given policy under a single currency regime and monetary authority.

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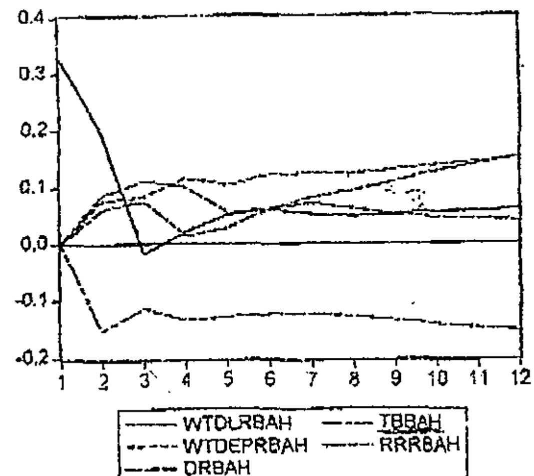
Response of WTDLRBAH to One S.D. Innovations



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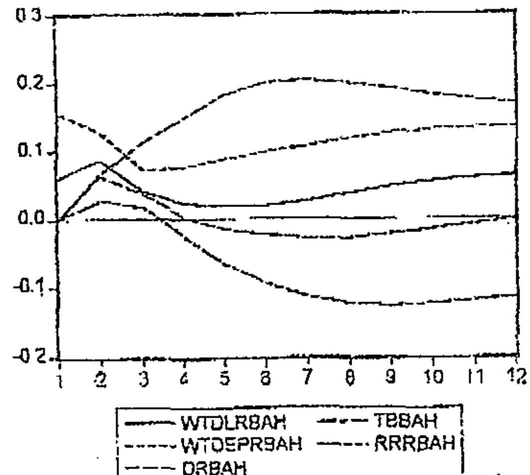

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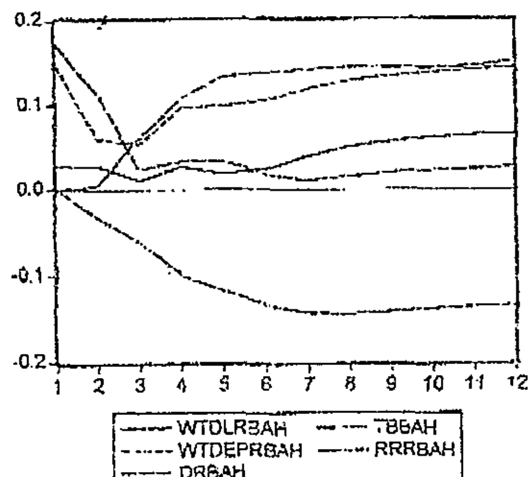

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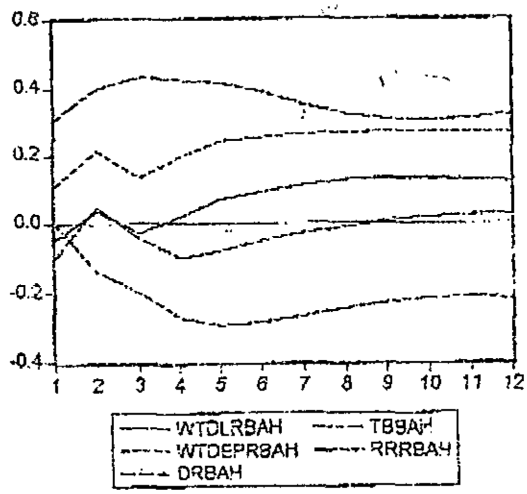

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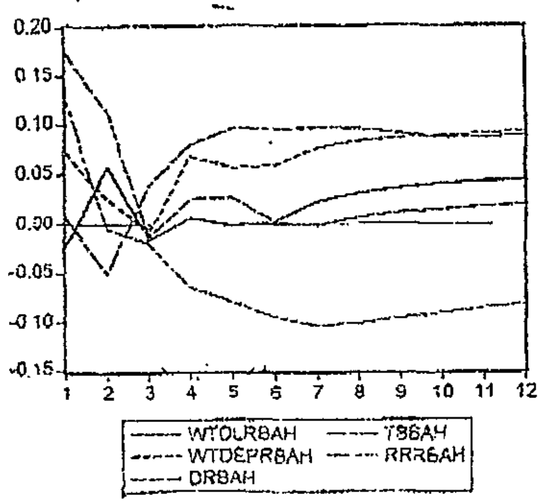

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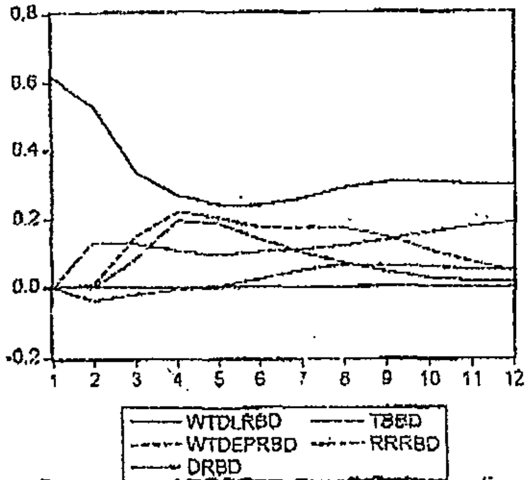

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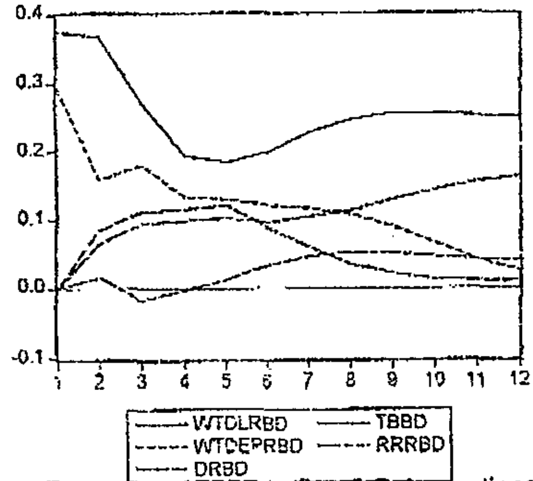

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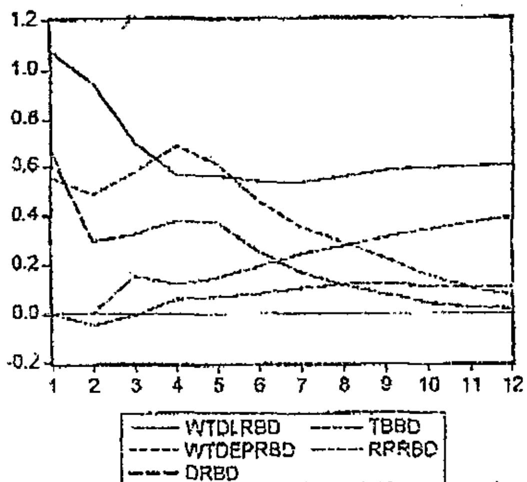

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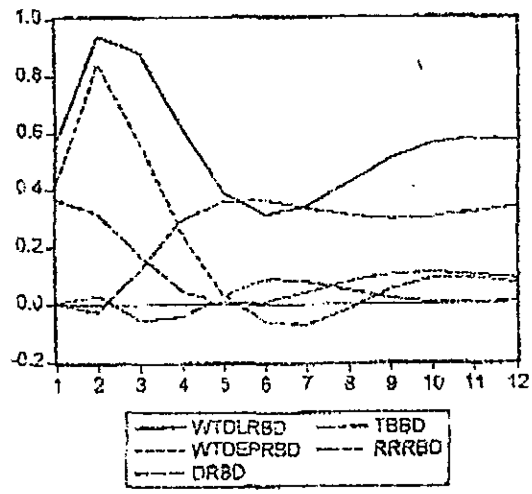

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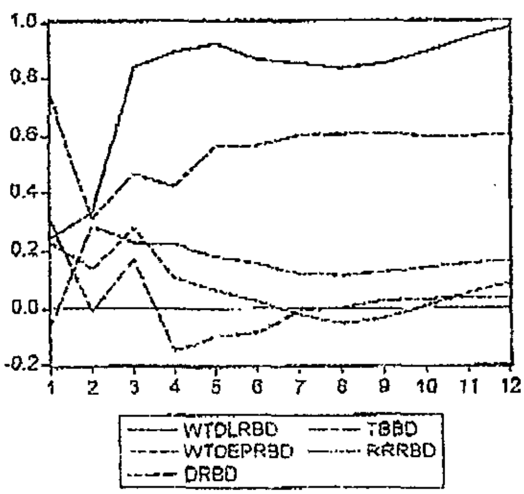

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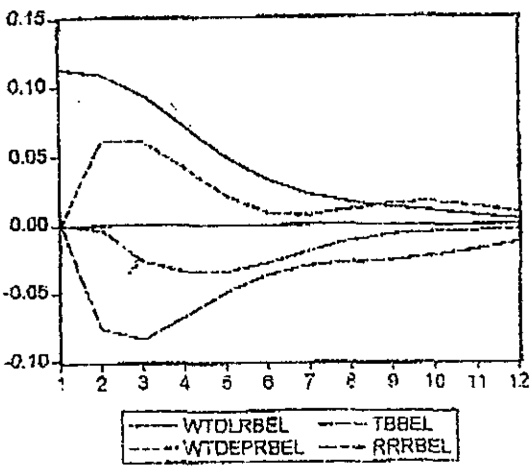

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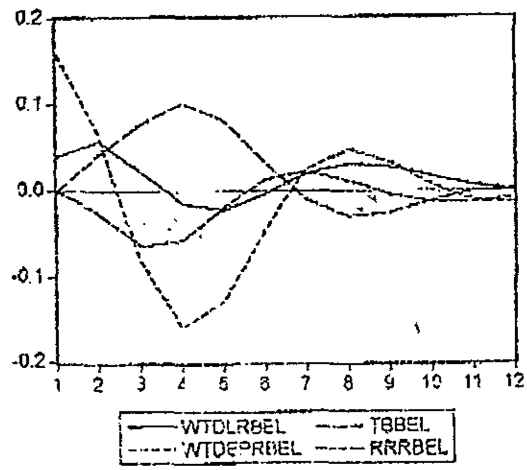

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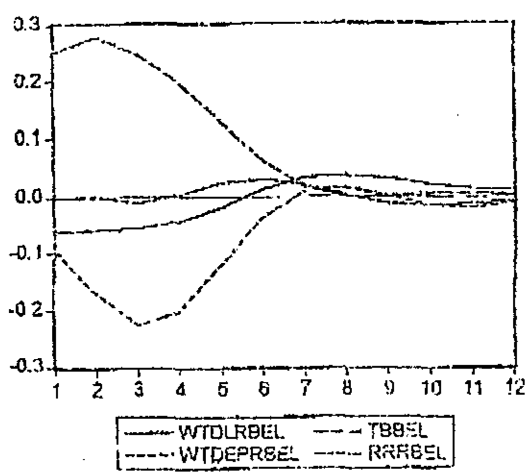

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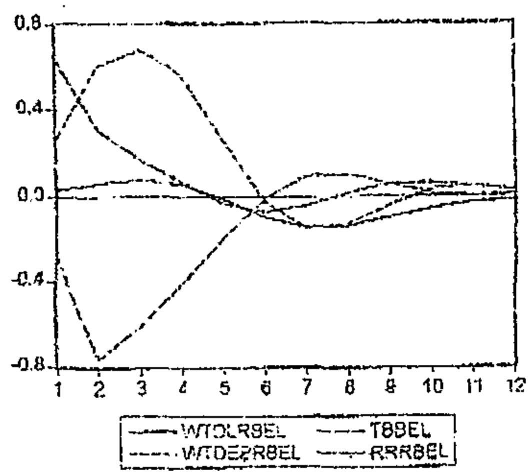

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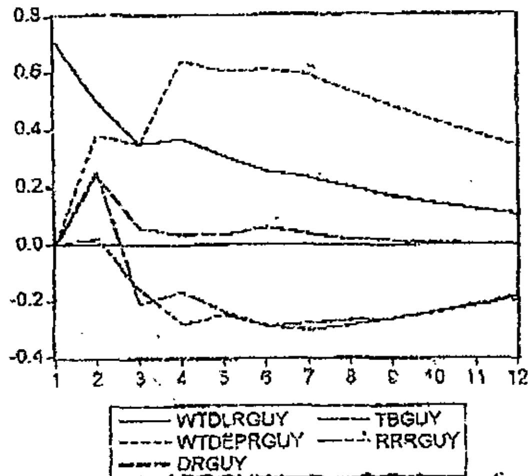
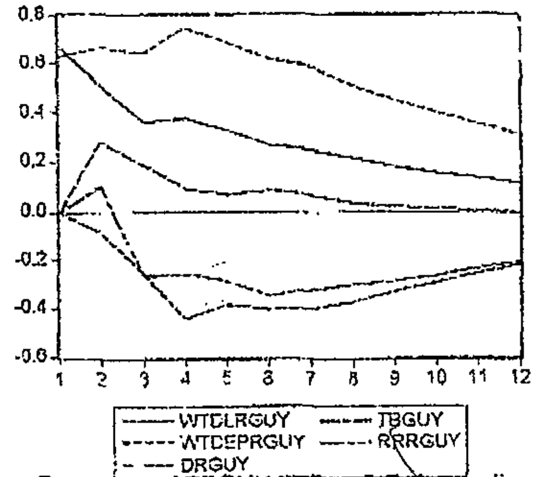
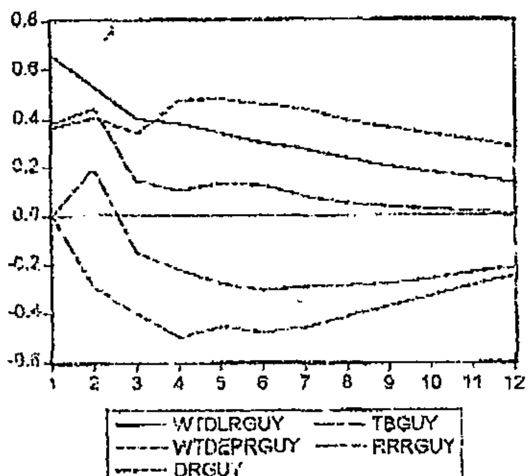


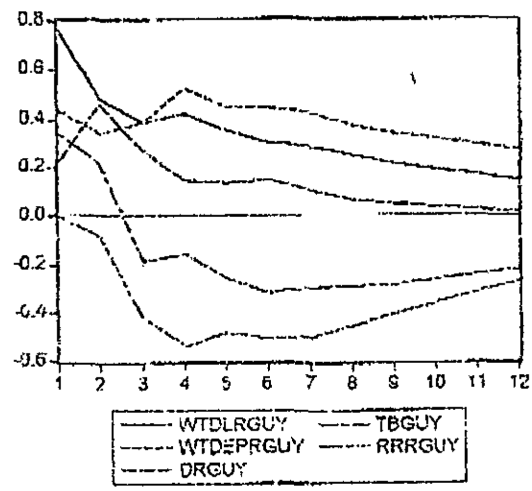
Response of WTDEPRGUY to One S.D. Innovations



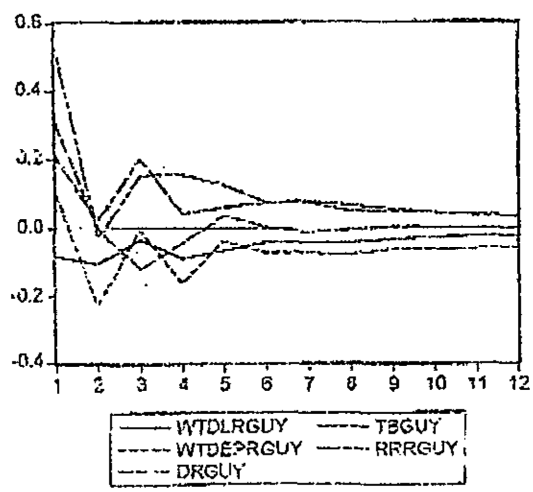
Response of DRGUY to One S.D. Innovations



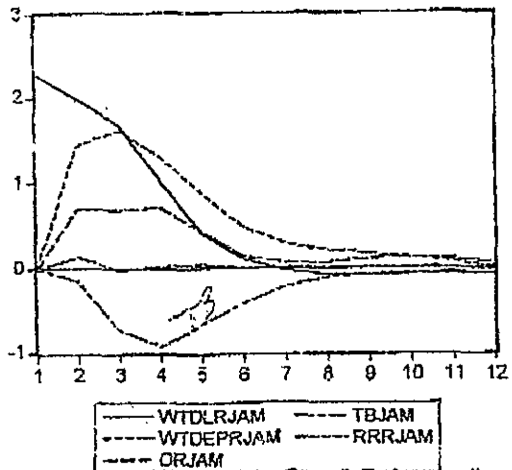
Response of TBGUY to One S.D. Innovations



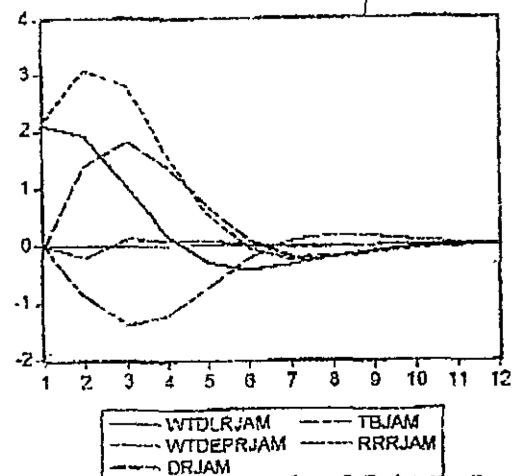
Response of RRRGUY to One S.D. Innovations



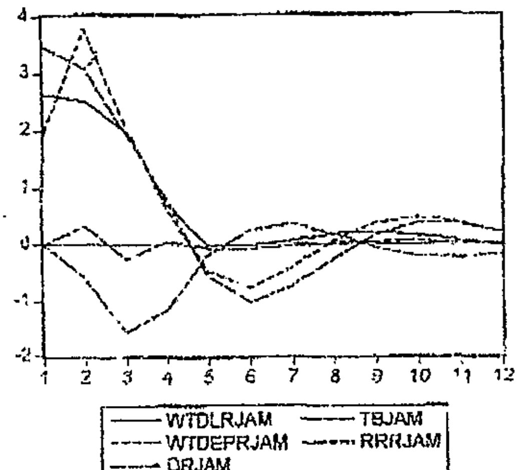
Response of WTDLRJAM to One S.D. innovations



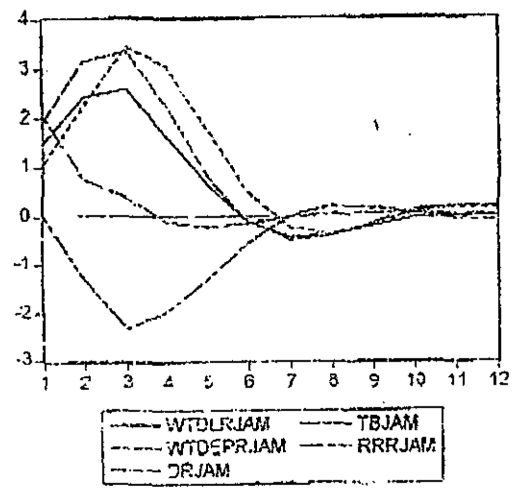
Response of WTDEPRJAM to One S.D. Innovations



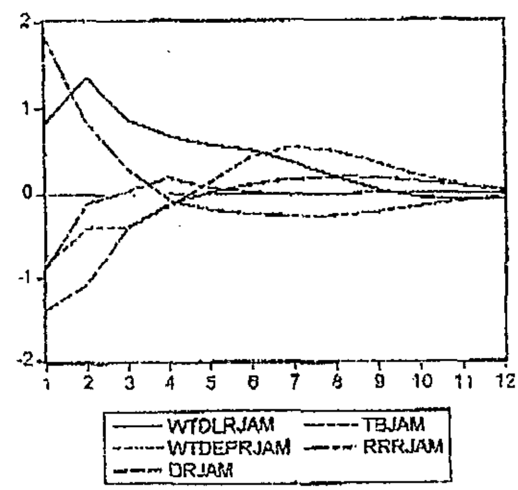
Response of DRJAM to One S.D. Innovations



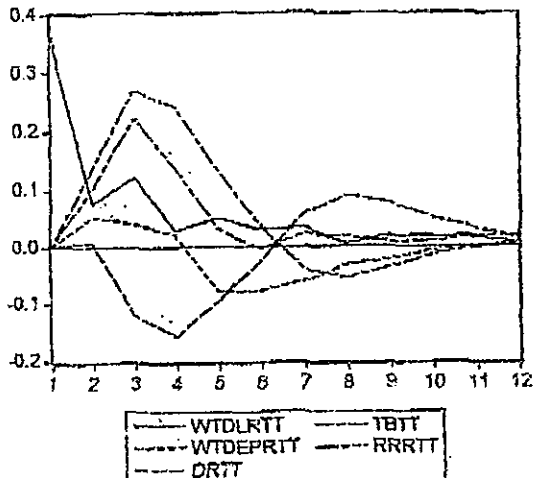
Response of TBJAM to One S.D. Innovations



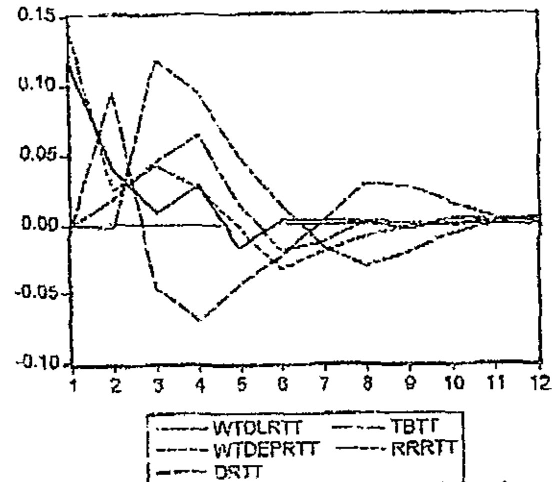
Response of RRRJAM to One S.D. Innovations



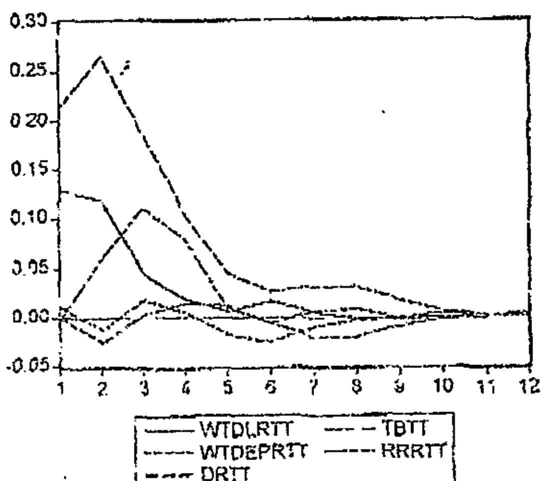
Response of WTDLRTT to One S.D. Innovations



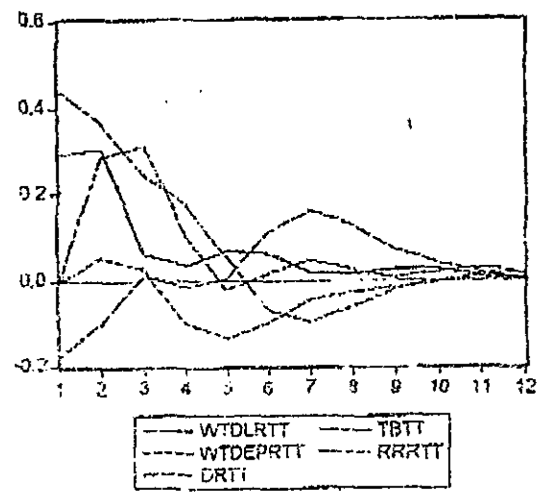
Response of WTDEPRTT to One S.D. Innovations



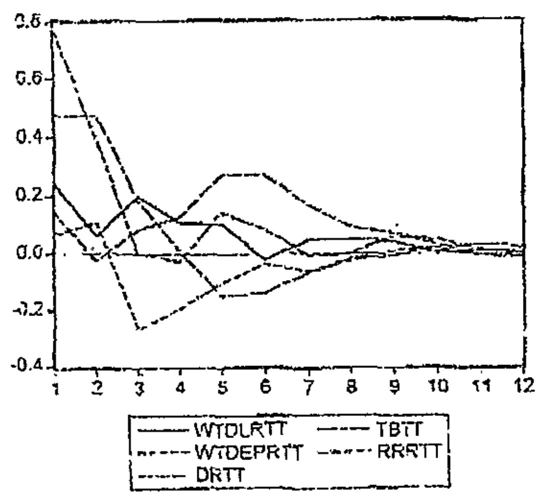
Response of DRTT to One S.D. Innovations



Response of TBTT to One S.D. Innovations



Response of RRRTT to One S.D. Innovations



Variance Decomposition

Variance Decomposition of WTDLRBAH:

Period	S.E.	WTDLRBAH	WTDEPRBA	DRBAH	TBBAH	RRRBAH
1	0.327454	100.0000	0.000000	0.000000	0.000000	0.000000
2	0.428723	78.50011	3.025653	3.815264	1.917089	12.74190
3	0.471277	65.09385	5.569223	8.690814	4.121653	16.52446
4	0.514121	54.85098	9.725454	11.13575	3.528481	20.75933
5	0.545744	49.51006	12.15792	10.83715	3.367441	24.12742
6	0.581939	44.57288	14.92185	10.57830	4.029632	25.89733
7	0.619646	40.03483	17.13413	10.65314	5.255250	26.92264
8	0.655958	36.24671	18.76020	10.35950	6.719180	27.91442
9	0.694739	32.85743	20.19763	9.737198	8.435090	28.77265
10	0.736975	29.75600	21.44485	9.029942	10.41974	29.34947
11	0.781571	26.98682	22.47115	8.326286	12.49779	29.71795
12	0.827968	24.56653	23.32492	7.638059	14.51844	29.95205

Variance Decomposition of WTDEPRBAH:

Period	S.E.	WTDLRBAH	WTDEPRBA	DRBAH	TBBAH	RRRBAH
1	0.166811	13.02860	86.97140	0.000000	0.000000	0.000000
2	0.246035	18.65381	66.25907	6.637496	7.181089	1.268537
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7	0.531948	5.286495	28.11124	2.472441	54.11773	10.01209
8	0.595156	4.620078	26.31768	2.208349	54.41584	12.43806
9	0.652196	4.384154	25.58564	1.963608	53.87877	14.18782
10	0.702843	4.397029	25.45085	1.736918	53.04661	15.36859
11	0.748116	4.533384	25.61662	1.543565	52.16665	16.13978
12	0.789531	4.709053	25.90601	1.386226	51.35904	16.63967

Variance Decomposition of DRBAH:

Period	S.E.	WTDLRBAH	WTDEPRBA	DRBAH	TBBAH	RRRBAH
1	0.228037	1.550447	41.55466	56.89490	0.000000	0.000000
2	0.264971	2.254710	35.77262	60.28836	0.039527	1.644784
3	0.284933	2.091068	34.32685	52.83982	4.473438	6.268828
4	0.337377	2.112970	32.70137	38.65291	13.33504	13.19772
5	0.395639	1.766904	29.91463	28.82289	21.05183	18.44374
6	0.453391	1.621374	28.10558	22.09630	25.40827	22.76847
7	0.512035	1.842469	27.37382	17.36885	27.67408	25.74078
8	0.568682	2.238259	27.29009	14.14823	28.97750	27.34592
9	0.621287	2.669665	27.53349	11.95521	29.71081	28.13083
10	0.670287	3.101259	27.91632	10.38273	30.15377	28.44592
11	0.717046	3.500019	28.33024	9.188980	30.52669	28.45407
12	0.762609	3.829366	28.69649	8.241729	30.94973	28.28269

Variance Decomposition of TBBAH:

Period	S.E.	WTDLRBAH	WTDEPRBA	DRBAH	TBBAH	RRRBAH
1	0.344020	1.900713	10.52920	8.402972	79.16712	0.000000
2	0.586533	1.015098	16.60028	3.477886	73.18214	5.724605
3	0.770882	0.723503	12.65990	2.374742	74.09907	10.14279
4	0.946381	0.518462	12.60301	2.682186	69.21249	14.98385
5	1.106209	0.781290	13.88223	2.493676	64.74839	18.09442

6	1.237116	1.186683	15.27938	2.163286	61.60102	19.76964
7	1.343685	1.713714	16.72492	1.884322	58.96545	20.71159
8	1.434046	2.306545	18.12403	1.661871	56.77606	21.13149
9	1.513954	2.857316	19.39807	1.492653	55.04260	21.20936
10	1.587260	3.297621	20.48278	1.372260	53.71824	21.12887
11	1.657467	3.620217	21.37151	1.279643	52.71990	21.00873
12	1.727595	3.841968	22.08694	1.197886	51.96559	20.90761

Variance Decomposition of RRRBAH:

Period	S.E.	WTDLRBAH	WTDEPRBA	DRBAH	TBBAH	RRRBAH
1	0.227314	0.905947	10.07380	58.66539	0.079056	30.27573
2	0.266130	5.339635	8.217308	60.74552	3.557666	22.13967
3	0.270645	5.525396	8.053626	58.97755	5.484252	21.95918
4	0.298013	4.607771	11.71776	49.37889	11.60567	22.68991
5	0.328963	3.785620	12.47180	41.15588	18.04968	24.53702
6	0.360190	3.167003	13.06165	34.33092	22.07271	27.36772
7	0.394718	2.954090	14.52373	28.58948	24.29376	29.63894
8	0.427794	3.043017	16.13577	24.36098	25.68730	30.77294
9	0.457278	3.276958	17.66593	21.39050	26.39436	31.27226
10	0.483997	3.613552	19.09214	19.18453	26.73508	31.37470
11	0.509191	3.971501	20.39341	17.44694	27.01741	31.16874
12	0.533596	4.271591	21.52723	16.02047	27.39171	30.78901

Ordering: WTDLRBAH WTDEPRBAH DRBAH TBBAH RRRBAH

Variance Decomposition of WTDLRBEL:

Period	S.E.	WTDLRBEL	WTDEPRBE	TBBEL	RRRBEL
1	0.113172	100.0000	0.000000	0.000000	0.000000
2	0.185068	71.94237	11.06436	16.95095	0.042321
3	0.233973	61.36322	13.70741	23.60311	1.326265
4	0.259354	57.56785	13.73495	25.87015	2.827046
5	0.271513	55.86898	13.12499	26.87682	4.129216
6	0.277381	54.91651	12.66931	27.45957	4.954614
7	0.280558	54.28896	12.44427	27.95824	5.308540
8	0.282806	53.75462	12.41042	28.44095	5.394008
9	0.284779	53.21788	12.54603	28.85459	5.381503
10	0.286366	52.75521	12.73263	29.15667	5.355491
11	0.287361	52.45142	12.85563	29.34732	5.345632
12	0.287841	52.29569	12.90244	29.45181	5.350049

Variance Decomposition of WTDEPRBEL:

Period	S.E.	WTDLRBEL	WTDEPRBE	TBBEL	RRRBEL
1	0.162825	6.154319	93.84668	0.000000	0.000000
2	0.192379	13.77775	79.51270	4.843654	1.865689
3	0.232971	10.34328	66.63647	14.16552	8.854732
4	0.305612	6.242714	65.93835	19.13625	8.682687
5	0.342559	5.377888	66.51602	20.89268	7.213412
6	0.347323	5.238848	66.36390	21.22532	7.171930
7	0.349638	5.505709	65.97500	21.03976	7.479530
8	0.355777	6.108120	65.54207	21.02320	7.326611
9	0.359450	5.607994	65.09269	21.10735	7.191960
10	0.360384	6.304860	64.79240	21.10242	7.300319
11	0.360899	6.821156	64.70712	21.04235	7.429366
12	0.361288	6.808114	64.72028	21.00360	7.468003

Variance Decomposition of TBBEL:

Period	S.E.	WTDLRBEL	WTDEPRBE	TBBEL	RRRBEL
1	0.277890	4.703150	11.71312	83.58373	0.000000
2	0.433620	3.753484	20.49270	75.75381	5.83E-06
3	0.551387	3.327627	29.48493	67.14972	0.037721
4	0.621621	3.123267	33.90665	62.93743	0.032657
5	0.646760	2.958023	34.83089	62.03619	0.174903
6	0.651520	2.958405	34.63860	61.99943	0.403586
7	0.653047	3.216366	34.50338	61.77833	0.501920
8	0.654397	3.549489	34.42498	61.52377	0.501753
9	0.655247	3.771680	34.33582	61.36464	0.527861
10	0.655968	3.869154	34.31100	61.23774	0.582106
11	0.656528	3.908091	34.33119	61.14238	0.618341
12	0.656763	3.934118	34.33640	61.09916	0.630322

Variance Decomposition of RRRBEL:

Period	S.E.	WTDLRBEL	WTDEPRBE	TBBEL	RRRBEL
1	0.742532	0.163136	13.10669	15.63703	71.09314
2	1.264649	0.302561	27.16656	42.28367	30.24721
3	1.571324	0.462232	36.38290	42.46099	20.69388
4	1.720206	0.493121	40.88301	41.21435	17.40952
5	1.750668	0.483433	41.58958	41.07024	16.85675

Variance Decomposition

6	1.755384	0.806846	41.39238	40.85206	16.94871
7	1.771264	1.486026	41.42022	40.39200	16.70176
8	1.784388	2.081502	41.34524	40.10760	16.46565
9	1.789353	2.373290	41.16485	39.98703	16.47483
10	1.791623	2.457999	41.09365	39.89338	16.55497
11	1.793063	2.476069	41.10634	39.82937	16.58822
12	1.793473	2.486050	41.10749	39.81356	16.59291

Ordering: WTDLRBEL WTDEPRBEL TBBEL RRRBEL

Variance Decomposition of WTDLRBD:

Period	S.E.	WTDLRBD	WTDEPRBD	DRBD	TBBD	RRRBD
1	0.619387	100.0000	0.000000	0.000000	0.000000	0.000000
2	0.826554	97.27807	0.009510	1.86E-05	0.241532	2.470871
3	0.915840	92.53992	2.533328	0.792875	0.247836	3.886044
4	1.003472	84.13636	6.932295	4.381673	0.211497	4.338180
5	1.072066	78.85354	9.589724	6.813195	0.185784	4.557753
6	1.126097	76.02159	11.08595	7.697042	0.215095	4.980322
7	1.178910	74.18293	12.31905	7.720647	0.375541	5.401629
8	1.235005	73.06766	13.12968	7.353094	0.600821	5.848746
9	1.289986	72.60932	13.27078	6.849926	0.786997	6.482974
10	1.341085	72.42291	12.89653	6.371963	0.910340	7.398264
11	1.388607	72.24102	12.28524	5.958212	0.989172	8.526351
12	1.434211	72.00786	11.60947	5.596301	1.043519	9.742856

Variance Decomposition of WTDEPRBD:

Period	S.E.	WTDLRBD	WTDEPRBD	DRBD	TBBD	RRRBD
1	0.476599	61.89311	38.10689	0.000000	0.000000	0.000000
2	0.631569	69.09429	28.02480	1.775902	0.067571	1.036443
3	0.726305	66.34204	27.29572	3.740320	0.111301	2.510618
4	0.778040	64.01764	26.63783	5.460031	0.097596	3.786895
5	0.825125	61.85175	26.16339	6.971453	0.110960	4.902446
6	0.867790	61.15495	25.58600	7.344135	0.247127	5.667792
7	0.913789	61.32205	24.71696	7.066212	0.476101	6.418683
8	0.961358	61.98552	23.57760	6.513908	0.724418	7.198554
9	1.008789	62.76704	22.19625	5.959191	0.909292	8.168233
10	1.053661	63.44268	20.72509	5.477820	1.023582	9.330825
11	1.096192	63.91145	19.29354	5.070898	1.090674	10.63344
12	1.137351	64.22299	17.97341	4.719295	1.137414	11.94689

Variance Decomposition of DRBD:

Period	S.E.	WTDLRBD	WTDEPRBD	DRBD	TBBD	RRRBD
1	1.375121	61.16066	16.13281	22.70653	0.000000	0.000000
2	1.765302	65.98221	17.34410	16.59956	0.072934	0.001197
3	2.013637	62.56039	21.50604	15.30271	0.056381	0.574482
4	2.233930	57.16573	26.75171	15.23318	0.112154	0.737231
5	2.414410	54.29346	29.16326	15.37905	0.170855	0.993376
6	2.535502	53.70836	29.66054	14.91750	0.248210	1.465383
7	2.633642	53.88076	29.30440	14.23402	0.373073	2.207751
8	2.725585	54.44283	28.49585	13.46410	0.528760	3.068465
9	2.816000	55.26766	27.32071	12.68243	0.667207	4.061968
10	2.904607	56.13333	25.96325	11.94016	0.773973	5.189291
11	2.992379	56.90054	24.57918	11.25646	0.855303	6.408517
12	3.080292	57.56835	23.24471	10.62686	0.919753	7.640322

Variance Decomposition of TBBD:

Period	S.E.	WTDLRBD	WTDEPRBD	DRBD	TBBD	RRRBD
1	0.805916	51.41543	28.04865	0.004220	20.53170	0.000000
2	1.531385	51.35078	38.23834	0.035216	9.844387	0.031271
3	1.866829	57.18910	34.81159	0.108980	7.467322	0.423011
4	2.004402	59.04828	31.74193	0.135458	6.530144	2.544192
5	2.073161	58.67366	29.69521	0.145361	6.104658	5.381107

6	2.130349	57.70983	28.20613	0.314292	5.782413	7.987331
7	2.186092	57.23246	26.89524	0.432198	5.524907	9.915191
8	2.250139	57.55252	25.39224	0.456521	5.340052	11.25866
9	2.328754	58.48440	23.75541	0.434171	5.194962	12.13105
10	2.419410	59.62272	22.15224	0.402829	5.027495	12.79472
11	2.512698	60.63552	20.67611	0.373536	4.829971	13.48486
12	2.602577	61.37877	19.35148	0.349221	4.625208	14.29531
Variance Decomposition of RRRBD:						
Period	S.E.	WTDLRBD	WTDEPRBD	DRBD	TBBD	RRRBD
1	0.867922	7.936368	6.842478	12.23339	0.404587	72.58318
2	1.027619	15.95839	6.614632	8.736295	7.898162	60.79252
3	1.458624	40.93644	6.902900	5.688035	6.314976	40.15765
4	1.783699	52.40793	4.958938	4.507627	5.749209	32.37630
5	2.096110	57.30134	3.676789	3.485876	4.871957	30.66404
6	2.344227	59.52851	2.950529	2.923938	4.327519	30.26951
7	2.570146	60.59574	2.462446	2.434267	3.823664	30.68389
8	2.771713	61.16081	2.155877	2.093096	3.458155	31.13206
9	2.965558	61.66947	1.898778	1.835337	3.197522	31.39889
10	3.157131	62.38590	1.676205	1.629886	3.024762	31.28325
11	3.352570	63.22338	1.512909	1.457772	2.897162	30.90878
12	3.550206	64.03966	1.407155	1.310114	2.793126	30.44995

Ordering: WTDLRBD WTDEPRBD DRBD TBBD RRRBD

Variance Decomposition of WTDLRGUY:

Period	S.E.	WTDLRGUY	WTDEPRGU	DRGUY	TBGUY	RRRGUY
1	0.710512	100.0000	0.000000	0.000000	0.000000	0.000000
2	1.009841	74.11817	14.01404	5.599441	6.230930	0.037421
3	1.156702	65.64705	19.69077	4.534126	8.114285	2.013768
4	1.412958	50.79192	33.73020	3.097846	6.910150	5.469883
5	1.607213	43.00749	40.27253	2.450072	7.597614	6.672295
6	1.788558	36.78767	44.24434	2.096189	8.798682	8.073115
7	1.943846	32.59208	46.69542	1.814659	9.570891	9.326943
8	2.064600	29.83773	48.07270	1.616828	10.22239	10.25036
9	2.159583	27.87922	48.90090	1.481609	10.85388	10.88439
10	2.234197	26.46853	49.43670	1.386038	11.35216	11.35658
11	2.291040	25.46480	49.80667	1.318196	11.72409	11.68624
12	2.333844	24.73935	50.06755	1.270535	12.01866	11.90390

Variance Decomposition of WTDEPRGUY:

Period	S.E.	WTDLRGUY	WTDEPRGU	DRGUY	TBGUY	RRRGUY
1	0.918501	52.77034	47.22966	0.000000	0.000000	0.000000
2	1.282385	42.87003	51.19804	4.830089	0.627011	0.474773
3	1.537068	35.51614	53.16424	4.834556	3.332264	3.152803
4	1.826693	29.45679	54.45904	3.684614	4.339422	8.060137
5	2.037193	26.28656	55.04409	3.069762	5.502951	10.09664
6	2.214024	23.72460	54.49589	2.742077	7.128705	11.90873
7	2.362137	21.93086	54.03275	2.485512	8.168463	13.38241
8	2.473529	20.76056	53.51883	2.286904	8.947686	14.48601
9	2.558564	19.91173	53.11500	2.145050	9.616982	15.21124
10	2.624291	19.28600	52.81422	2.042363	10.14797	15.70945
11	2.674150	18.83242	52.63000	1.967588	10.53576	16.03424
12	2.711590	18.49793	52.52249	1.913634	10.83227	16.23368

Variance Decomposition of DRGUY:

Period	S.E.	WTDLRGUY	WTDEPRGU	DRGUY	TBGUY	RRRGUY
1	0.845768	60.56230	18.70649	20.73120	0.000000	0.000000
2	1.218744	48.14325	20.25012	23.14486	2.541635	5.920130
3	1.405962	44.40243	21.16583	18.43358	3.062823	12.93534
4	1.632771	38.45669	24.28264	14.06875	4.121538	19.07038
5	1.821695	34.41778	26.52899	11.82870	5.631649	21.59288
6	1.990770	31.09107	27.52622	10.29781	7.121761	23.96314
7	2.129493	28.83012	28.28380	9.135626	8.109450	25.64101
8	2.237307	27.25294	28.71011	8.324052	8.993811	26.71909
9	2.323270	26.06240	29.11213	7.748306	9.756278	27.32089
10	2.391512	25.17185	29.47993	7.326610	10.34425	27.67736
11	2.444525	24.51052	29.83497	7.016410	10.78501	27.85309
12	2.485619	24.00553	30.16869	6.787013	11.13468	27.90408

Variance Decomposition of TBGUY:

Period	S.E.	WTDLRGUY	WTDEPRGU	DRGUY	TBGUY	RRRGUY
1	0.967466	61.82336	20.34056	5.437568	12.39851	0.000000
2	1.246226	52.39093	19.71527	16.95062	10.47821	0.464973
3	1.461626	45.07082	21.37017	15.72230	9.190864	8.645850
4	1.710937	38.99327	24.97947	12.18123	7.543508	16.30252
5	1.889326	35.45689	26.14113	10.48672	7.986795	19.92846

6	2.059647	32.00189	26.64783	9.332787	9.109221	22.90827
7	2.204235	29.63791	27.00407	8.375077	9.774883	25.20806
8	2.314526	28.07022	27.11455	7.674110	10.39219	26.74893
9	2.401595	26.89184	27.22782	7.168985	11.02286	27.68849
10	2.471021	26.00797	27.39974	6.794460	11.52769	28.27013
11	2.524905	25.35791	27.61112	6.515980	11.91063	28.60437
12	2.566613	24.86420	27.84335	6.308090	12.21936	28.76499

Variance Decomposition of RRRGUY:

Period	S.E.	WTDLRGUY	WTDEPRGU	DRGUY	TBGUY	RRRGUY
1	0.658596	1.578742	2.182750	21.65079	9.590043	64.99767
2	0.705037	3.591120	12.16456	18.89363	8.469755	56.88093
3	0.759446	3.305636	10.49005	18.78636	14.35462	53.06333
4	0.798168	4.212727	13.43630	17.30017	13.28094	51.76986
5	0.814373	4.704666	13.11501	16.80715	13.28848	52.08470
6	0.825389	4.837160	13.57712	16.36184	13.72898	51.49490
7	0.836833	4.951640	13.96671	15.94042	14.14966	50.99156
8	0.845507	5.093274	14.51592	15.61719	14.18888	50.58473
9	0.851529	5.167305	14.84290	15.40069	14.30745	50.28165
10	0.856647	5.203365	15.21772	15.21826	14.41458	49.94608
11	0.860839	5.227256	15.56160	15.07072	14.49060	49.64982
12	0.864159	5.240945	15.86659	14.95590	14.53708	49.39947

Ordering: WTDLRGUY WTDEPRGUY DRGUY TBGUY RRRGUY

Variance Decomposition

Variance Decomposition of WTDLRJAM:

Period	S.E.	WTDLRJAM	WTDEPRJA	DRJAM	TBJAM	RRRJAM
1	2.282650	100.0000	0.000000	0.000000	0.000000	0.000000
2	3.432812	77.53395	17.82180	4.268612	0.165975	0.209670
3	4.269694	65.65161	25.83128	5.296093	0.111012	3.110006
4	4.730311	58.22158	28.67767	6.583358	0.092147	6.425246
5	4.894024	55.08855	30.02019	6.904993	0.094991	7.891279
6	4.938192	54.15126	30.42247	6.869896	0.093547	8.452828
7	4.952033	53.86098	30.58387	6.849812	0.093423	8.611918
8	4.958942	53.73247	30.68191	6.851300	0.093733	8.640592
9	4.964153	53.64193	30.73387	6.881855	0.094038	8.648306
10	4.968293	53.57434	30.74592	6.933538	0.094457	8.651749
11	4.970575	53.54635	30.73613	6.970155	0.094614	8.652753
12	4.971398	53.54650	30.72625	6.980997	0.094591	8.651668

Variance Decomposition of WTDEPRJAM:

Period	S.E.	WTDLRJAM	WTDEPRJA	DRJAM	TBJAM	RRRJAM
1	3.039439	47.49457	52.50543	0.000000	0.000000	0.000000
2	5.008940	32.08426	56.84602	7.791981	0.177231	3.100504
3	6.267667	23.22746	56.25976	13.37565	0.151769	6.985157
4	6.721014	20.25674	54.41318	15.77039	0.151595	9.408092
5	6.823238	19.83421	53.42634	16.24694	0.162790	10.32973
6	6.840492	20.11126	53.16374	16.18050	0.162036	10.38247
7	6.856129	20.24734	53.05135	16.18849	0.163582	10.34924
8	6.868260	20.26146	52.96931	16.22501	0.165370	10.37885
9	6.872872	20.25640	52.93680	16.23037	0.165416	10.41041
10	6.873821	20.25474	52.93169	16.22726	0.165416	10.42090
11	6.874025	20.25391	52.93065	16.22792	0.165607	10.42191
12	6.874117	20.25337	52.93018	16.22910	0.165659	10.42169

Variance Decomposition of DRJAM:

Period	S.E.	WTDLRJAM	WTDEPRJA	DRJAM	TBJAM	RRRJAM
1	4.795687	30.42931	17.15562	52.41507	0.000000	0.000000
2	7.318531	24.80547	34.00463	40.27814	0.203464	0.708300
3	8.235693	25.31026	32.99440	37.20193	0.271763	4.221646
4	8.412391	24.98456	32.19319	36.56530	0.262344	5.994597
5	8.447116	24.77999	32.24735	36.70766	0.266666	5.998333
6	8.550903	24.18257	32.30743	37.29993	0.271273	5.938796
7	8.602527	23.89907	32.16629	37.62365	0.269147	6.041849
8	8.610989	23.89708	32.10727	37.64965	0.269075	6.076918
9	8.623821	23.89063	32.19878	37.57410	0.270748	6.065731
10	8.649133	23.78328	32.30367	37.54174	0.272470	6.098844
11	8.668341	23.68283	32.34896	37.54171	0.272402	6.154097
12	8.675499	23.64436	32.35290	37.54311	0.272010	6.187616

Variance Decomposition of TBJAM:

Period	S.E	WTDLRJAM	WTDEPRJA	DRJAM	TBJAM	RRRJAM
1	3.381327	20.03017	10.47744	33.87450	35.61788	0.000000
2	5.892040	23.75619	18.18094	39.91362	13.31824	4.831003
3	8.377409	21.33584	25.97719	35.84914	6.795478	10.04235
4	9.536176	19.23981	30.33009	33.21382	5.259246	11.95704
5	9.845513	18.49615	31.67278	31.84880	4.988022	12.99426

6	9.875696	18.39596	31.72270	31.66387	4.983802	13.23368
7	9.899543	18.49385	31 62291	31.75210	4 960964	13.17017
8	9.925066	18.54468	31.60647	31.76904	4.936226	13.14358
9	9.931218	18.55998	31 59959	31.75025	4.932824	13.15735
10	9.932291	18.55763	31.59697	31.75510	4.933386	13.15692
11	9.936628	18.54206	31.60288	31.77661	4.929486	13.14897
12	9.940269	18.52867	31.60465	31.79259	4.925887	13.14821

Variance Decomposition of RRRJAM:

Period	S.E.	WTDLRJAM	WTDEPRJA	DRJAM	TBJAM	RRRJAM
1	2.710145	9.626831	9.433020	25.96187	10.34994	44.62834
2	3.345756	22.66944	7.609888	27.33429	6 886133	35.50025
3	3.509765	26.59995	8.176728	25.96646	6.270683	32.88619
4	3.585222	29.19269	7.970744	24.98266	6.300040	31.55387
5	3.639233	30.83968	7.873383	24.25109	6.156720	30.87912
6	3.709095	31.52444	8 935792	23.44009	5.931512	30.16817
7	3.778397	31.27525	10.66385	22.79224	5.717654	29.55101
8	3.828192	30.72390	12.01072	22.45848	5.570177	29.23673
9	3.853655	30.33333	12.64145	22.37788	5.497181	29.15016
10	3.863906	30.18504	12 82737	22.38113	5.469586	29.13688
11	3.867468	30.16853	12.85436	22.38969	5.460442	29.12698
12	3.868697	30.18655	12.85080	22.38997	5.457158	29.11551

Ordering: WTDLRJAM WTDEPRJAM DRJAM TBJAM RRRJAM

Variance Decomposition

Variance Decomposition of WTDLRTT:

Period	S.E.	WTDLRTT	WTDEPRTT	DRTT	TBTT	RRRTT
1	0.362484	100 0000	0.000000	0.000000	0.000000	0.000000
2	0.410902	81.27948	1.652588	0.049525	10.95603	6.062375
3	0.567409	47.11632	1.353508	4.621377	28.34530	18.56349
4	0.652323	35.84266	1.134768	9.295293	35.31954	18.40774
5	0.679993	33.53646	2.453255	10.51519	36.33679	17.15831
6	0.686905	33.04561	3.751659	10.46837	35.91415	16.82021
7	0.694426	32.56417	4.461440	10.93337	35.47903	16.56200
8	0.703228	31.76012	4.559003	12.24891	35.21572	16.21624
9	0.708974	31.32042	4.602636	13.17894	34.93443	15.96357
10	0.711132	31.19769	4.584991	13.56531	34.77250	15.87950
11	0.712250	31.15369	4.570763	13.70630	34.66430	15.90495
12	0.712672	31.12443	4.568009	13 72139	34.64078	15.94539

Variance Decomposition of WTDEPRTT:

Period	S.E.	WTDLRTT	WTDEPRTT	DRTT	TBTT	RRRTT
1	0.176497	41.40183	58.59817	0.000000	0.000000	0.000000
2	0.206594	33.84618	44.22027	21.09970	0.019541	0.814307
3	0.249971	23.24873	33.06782	17.90888	21.97491	3.799852
4	0.286272	18.70366	26.02923	19.65294	27.63045	7.983721
5	0.294287	18.04028	24.64585	20.80805	28.73914	7.766676
6	0.297917	17.61122	25.25555	20.92990	28.23666	7.966665
7	0.299315	17 45329	25.45138	20.74426	28.25561	8.095456
8	0.302460	17.09416	25.02259	21.24757	28.70174	7.933937
9	0.304370	16.89733	24.71171	21.76303	28.79326	7.834681
10	0.304826	16.86470	24.63799	21.91627	28.76585	7.815191
11	0.304910	16.86814	24.63767	21.93000	28.75013	7.814056
12	0.305009	16 86099	24.63576	21.91611	28.74683	7.840324

Variance Decomposition of DRTT:

Period	S.E.	WTDLRTT	WTDEPRTT	DRTT	TBTT	RRRTT
1	0.250278	26.27264	0.171656	73.55570	0.000000	0.000000
2	0.388886	20.16857	0.188479	76.78876	0.454868	2.399318
3	0 447560	16.24237	0.318899	75.20379	0.350521	7.884424
4	0.467048	15.08785	0.306450	74.05501	0.431524	10.11917
5	0.469927	14.92369	0.447572	74.08636	0.493932	10.04845
6	0.471752	14.93157	0.730948	73.83932	0.509716	9.988443
7	0.473461	14.83516	0.769085	73.74598	0.714999	9.934777
8	0.475019	14.73867	0.769418	73.68908	0.899712	9.903124
9	0.475430	14.71329	0.769900	73.69427	0.935903	9.886637
10	0.475517	14.71834	0.770058	73.68903	0.938019	9.884551
11	0.475553	14.71894	0.772506	73.68233	0.937959	9.888267
12	0.475587	14.71685	0.774661	73.67196	0.940606	9.895928

Variance Decomposition of TBTT:

Period	S.E.	WTDLRTT	WTDEPRTT	DRTT	TBTT	RRRTT
1	0.557029	27.47494	0.000590	9.955083	62.56939	0.000000
2	0.793496	28 22195	0.434474	6.493942	52.04749	12.80214
3	0.888554	22.97300	0.416633	5.193022	48.89374	22.52361
4	0.917027	21.71255	1.552276	4.898271	49.43217	22.40473
5	0 931385	21.59868	3.627242	4.751943	48.25156	21.77058

6	0.947485	21.28912	4.573476	5.914631	47.15746	21.06531
7	0.967776	20.43458	4.600577	8.336514	46.21594	20.41239
8	0.978482	20.01862	4.572036	9.794108	45.59173	20.02351
9	0.981791	19.96257	4.559001	10.25689	45.32744	19.89410
10	0.983152	19.97885	4.546392	10.38653	45.20205	19.88618
11	0.983889	19.96229	4.543293	10.40576	45.15023	19.93844
12	0.984210	19.95279	4.540336	10.39924	45.15484	19.95280

Variance Decomposition of RRRTT:

Period	S.E.	WTDLRTT	WTDEPRTT	DRTT	TBTT	RRRTT
1	0.947506	6.422970	0.555224	2.169968	25.23794	65.61390
2	1.138178	4.727871	1.265428	1.548228	35.06563	57.39284
3	1.202302	6.967397	5.935451	1.887073	33.77590	51.43416
4	1.229235	7.413928	8.166906	2.843483	32.31919	49.25649
5	1.283996	7.410461	8.168028	7.068837	31.01844	46.33423
6	1.322142	7.019096	7.787028	10.77936	30.35138	44.06314
7	1.336806	6.992626	7.835600	12.11819	29.94860	43.10499
8	1.340957	7.087514	7.803103	12.47624	29.79459	42.83856
9	1.344473	7.128929	7.765651	12.66695	29.64496	42.79351
10	1.345719	7.115745	7.762323	12.69097	29.60881	42.82215
11	1.346191	7.118979	7.759995	12.68359	29.63947	42.79797
12	1.346485	7.123153	7.762140	12.68667	29.64879	42.77924

Ordering: WTDLRTT WTDEPRTT DRTT TBTT RRRTT