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Money Demand in Jordan During The Period 1993-2013

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Abstract
This study aim to estimate the stability of money demand Jordan, in terms of Gross domestic Product GDP, Inflation and Interstate during the period (1993-2013). Decide whether the banking crisis has impact on the demand for money function during the study period, using (co-integration) techniques and Error correction Model (VECM). The study came out of results that variables affecting the demand function were statistically significant at 10% degree, and the elasticity of demand for money for the sample size is equal to 2.23 meaning that real GDP rising by 10% would lead to a rise in the demand for money by 2.32%. Financial Stability results indicated the presence of significant statistical significance between GDP and interest rate therefore the improvement in economic activity is associated with increased demand for money.
Keywords: Money demand

1. Introduction

Banking crisis: banking crisis based on the capability of banks to recover deposits and bank insolvency as a result of banking panic that cause depositors to withdraw their deposits abruptly. The period under study witnessed several new financial products and technological changes. Automated Teller Machines (ATM) were introduced, electronic banking and telebanbanking. The introduction of new financial instrument and technological changes led to changes in the demand for money.

1.1 Nature of the banking environment in Jordan:

Jordan is generally characterized by political and military stability, making it a refuge for deposits from neighboring countries, and so is Jordan high volume of deposits in banks. The banking sector has witnessed during the past decade, expansion of banking services-based, computing and e-finance and coincided with the expansion of the base of legislation governing the financial sector

2. Model Specification;

In general, a demand for money is assumed to depend of a scale of variables, the rate of return on money, and the opportunity cost of holding money. This study used; Gross Domestic Product, Inflation rate and interstate. Therefore a long-run demand for money could be specified as follows;

$$Md = a + b1GDP + b2\inf + b3r \qquad (1)$$

Where:
Md demand for money
GDP:Gross Domestic Product
Inf: inflation rate
r: interest As we consider the inflation rate is a variable alternative to the opportunity to retain the money.

Regarding (table No.1) and using EVIEWS program for the time series of the demand for money and in Jordan during the period (1993-2013)in order estimate the stationarity of the data using Dickey Fuller Test for unit root test because Non-stationarity of data leads to biased t-static and invalidate the results of the regression. Table 1 shows that unit root test is stationary in their second difference.

Table (1) Test the stability of inflation and unemployment and interest rates in the study period using the Dickey Fuller test.

Variables	Critical Values	Critical Values 1%	Critical Values 5%	Critical Values 10%	Result
GDP	0.0001	-3.85	-3.04	-2.660	Stable
Inflation	0.008	-3.04	-3.71	-2.67	Stable
Interstate	0.002	3.85-	-3.04	-2.66	Stable

2.1 Empirical Results

Using Co integration (Engel and Granger) Method the demand for money equation in Jordan is :
Md=0.0.305+0.49GD+0.45inflation-109.7intrest
R squared = 0.9968 D. W = 1.9
Adjusted R squared =0.9959 S.E regression =431
F = 1115

It is noted from the model that the long run relationship between demand for money and gross

domestic is positive as expected as expected. The long-run relation between inflation and money balances is positive, whereas the long-run relation between interstate and money balances in negative

The final form of Variable Error Correlation Model (VECM) and the result of diagnostic tests are presented in table 2 show that the overall fit of the estimated model is good as indicated by R squared, adjusted R squared, SEE, Chow test for stability and Durbin Watson. The hypotheses that the residual is not serially correlated cannot be rejected, and there is no significance autoregressive conditional heteroskedasticity, or parameter instability. However the normality assumption is rejected.

Table (2)

Variable Error Correlation Model (VECM) and the result of diagnostic tests are presented.

	Coefficient	Std. Error	t-statistic
GPD(-1)	0,933	1.37	1.40
GDP(-2)	2.238	1.59	0.06
Inflation (-1)	46.03	46.27	1.38
Inflation(-2)	49.07	55.2	0.88
Interest (-1)	13.066	203	0.06
Interest (-2)	50.91	189.6	0.25
C	2734	1723	1.1586

R-squared	0.998	S D dependent 6811	
Adjusted R-squared	0.997	Akike criterion	1494
S. E. of Regression	97.47544		
Sum Squared resid.	1332700		
Log likelihood	-132.9		

The results presented at table 2 show that income, expected inflation rate, and deposit rate is important determining narrow money demand. That is, in the short-run money demand depends on weighted moving average of past and present income. Opportunity cost of holdings money, expected inflation rate, and expected depreciation rate. The variable error correction from the Engel and Granger vector enters negatively at lag 2 with an overall impact of 0.34% adjustment every month or 8 months a year.

3. Conclusion

This study uses co-integration and variable error correlation to estimate Jordan money demand (M2) over the period 1993-2113. The study uses Engel and Granger co-integration procedure to estimate the long-run money demand. In general this study indicate that:

1. The variables affecting the demand function was statistically significant at 10% degree of morale, and the elasticity of demand for money for the variable size is equal to 2.23 meaning that real GDP rising by 10% would lead to a rise in the demand for money by 2.32%.2.
2. Financial Stability results indicated the presence of significant statistical significance between GDP and interest rate margin and therefore the improvement in economic activity is associated with increased demand for credit and this is consistent with the financial stability of Jordan Central Bank of the 2014 report.

3.1 Recommendation

The study recommends using the elasticity of demand for money and flexibility of the estimated interest rate forecasts in a change on the demand for money and use it to adjust the money supply in order to achieve balance in the money market. With an estimate of the deviation of monetary assets for long-term balance and taking into account to take advantage of the early warning system and make it available from signals about the possibility of a banking crisis, and thus avoid fluctuations in the demand for money.

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