

MONETARY POLICY DRIVES ECONOMIC PROSPERITY: INNEGLIGIBLE INFLUENCE OF ENERGY

Boqiang Lin^{*}; Tong Su

China Institute for Studies in Energy Policy

Xiamen University

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MONETARY POLICY

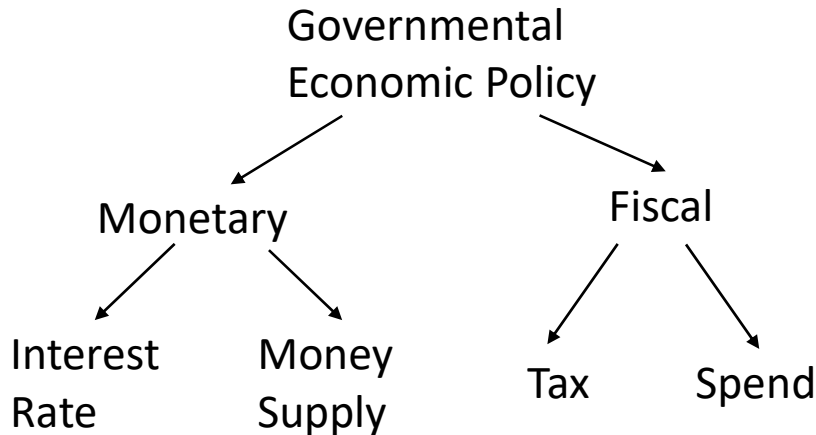
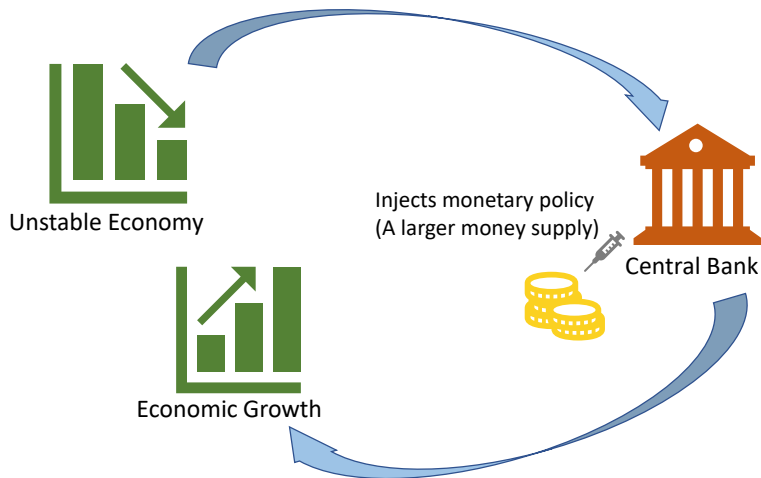


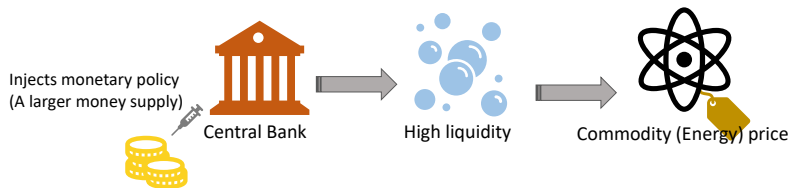
FIGURE: The bases of governmental economic policy

MONETARY POLICY WORKING AS EXPECTED

How the monetary policy play a role as expected ?



THE BY-PRODUCT OF MONETARY POLICY



- Expansionary monetary policy (larger money supply) increases macro-liquidity, thereby acting on commodity prices through the transmission of the economic system.
- The increase in macro liquidity will be transmitted to the financial market more quickly, and the prices of financial assets may respond more quickly to changes in monetary policy.
- The financialization of commodities, especially energy commodities, advances the inflationary impact of monetary policy, which may ultimately damage the expected effectiveness of monetary policy.

PROPOSE THE THEORETICAL MODEL

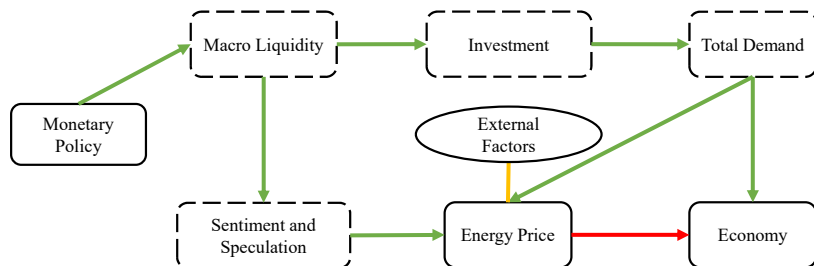
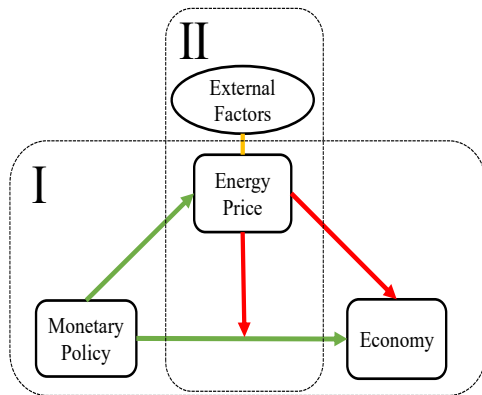


FIGURE: The theoretical transmission among monetary policy, energy price and macro economic prosperity

1. As energy is an important input element in industrial production, changes in energy prices will affect the production cost, ultimately economic prosperity. In a word, the energy might be the mediator in the pathways that monetary policy driving the economic boom.
2. Energy price is determined by various factors, it may also moderate the impact of monetary policy on economic prosperity.

SIMPLIFIED THEORETICAL MODEL



- ① *H1: Monetary policy will ultimately affect the economic prosperity by influencing energy prices. (Energy is the mediator in monetary policy driving the economic boom.)*
- ② *H2: Energy prices can affect the extent to which monetary policy promotes economic prosperity. (Energy is the moderator in monetary policy driving the economic boom.)*

FIGURE: Simplified transmission mode

Aim Reidentify the role of energy price in the process of monetary policy driving the economy.

Research setting *China* (due to the realistic demand and typicality for developing nations.)

Main variables *Monetary policy*: currency supply amount (M2) changes; *Energy price*: The national coal price level; *macro-economic prosperity*: The purchasing managers index (PMI);

Sample data *Monthly data from January 2006 to June 2021.*

Methodologies *Granger mediation analysis*: Confirming whether the energy price is a negative mediator in monetary policy driving the economic boom; *Time varying granger causality model*: Combining the regression to confirm whether the energy price is a negative moderator in monetary policy driving the economic boom;

RESULTS OF MEDIATION ANALYSIS

TABLE: GMA modelling results

	Estimate	Std.Err.	LB	UB
A	-0.1216	0.0112	-0.1436	-0.0997
C	28.1524	1.2465	25.7093	30.5956
B	0.7476	0.1568	0.4403	1.0550
AB	-0.0909	0.0208	-0.1318	-0.0501

There are two parameters need to be focused, the C and AB are respectively the total direct effect and total indirect effect. As can be seen, we can find all the estimated parameters are significant, indicating the evidence of both the direct and indirect effect. Moreover, the AB has a negative value, which suggest that the indirect impact of expansionary monetary policy through energy prices may ultimately damage the economic development, even if such negative impacts are insignificant relative to the direct effects of monetary policy.

RESULTS OF MODERATION ANALYSIS

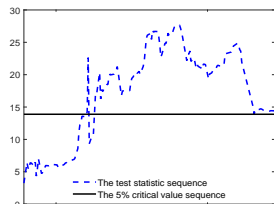


FIGURE: Dynamic causal impact strength of M2 changes affecting the PMI

TABLE: Results of moderation analysis

	Estimate	Std.Err.	t	P-value
Energy	-17.573	25.000	-0.700	0.483
L.Energy	2.689	31.106	0.090	0.931
L2.Energy	-48.409	25.411	-1.910	0.059
Controls	Y	Y	Y	Y
Dummy	Y	Y	Y	Y

- The effect of monetary policy on the economy is not static;
- The two-period lag of energy prices has a significant effect on time-varying causal effects;
- Energy prices have the characteristics of moderators.

RESULTS OF ROBUSTNESS CHECK

- ➊ In order to ensure the robustness of the results, we adjusted the energy price index and reperformed the empirical steps, the results did not change.
- ➋ Subsequently, we adjusted the manufacturing PMI to the non-manufacturing PMI and found that the impact of energy prices disappeared, which mirrors the speculation that energy shocks the effectiveness of monetary policy through the manufacturing production.
- ➌ At last, we test whether other commodities prices have the similar effect as energy price, the results on agricultural product prices do not show any significant effect. All the above steps confirm our robustness.

CONCLUDING REMARKS

CONCLUSIONS AND IMPLICATIONS

- ➊ **Main Finding:** Energy prices may have both a mediating role and a moderating effect on the connection between monetary policy and the economy.
- ➋ **Policy Implication:** When using monetary policy to promote economic development, policy makers should reasonably choose the timing of policy release; and devote to reduce the impact of increased liquidity on energy prices.
- ➌ **Limitation:** The findings could only explain the Chinese tale, it should be cautious to apply the corresponding recommendation to other economic areas

Thanks for your watching.