Abstract

This paper examines the macroeconomic effects of inflation targeting in 44 emerging market economies (EMEs) during 1970-2017. We estimate a dynamic panel data model, which takes into account the endogeneity of inflation targeting regime and controls for a variety of factors affecting macroeconomic performance in EMEs. The main findings from our empirical investigation are as follows: inflation targeting is associated with lower average inflation, though its favourable effects, as compared to the alternative monetary strategies, are negligible; we provide firm evidence against the proposition that inflation targeting lowers inflation volatility; there is no evidence whatsoever that inflation targeting has favorable effects on output growth; we find that inflation targeting does not affect output growth volatility.

Motivation

- Since the late 1990s, inflation targeting has been increasingly adopted by emerging market economies (EMEs).
- It is presumed that inflation targeting reduced inflation rates and output volatility in EMEs.
- Distinctive institutional and macroeconomic features of EMEs hindering the design and implementation of effective monetary policy.
- EMEs provide much more valid evidence on the true effects of inflation targeting due to their varying historical experiences in controlling inflation (Walsh 2009).
- The selection bias can be minimized by focusing on EMEs (Gonçalves and Salles 2008).
- There is no consensus in the empirical literature on the macroeconomic effects of inflation targeting in EMEs.

Contribution of the paper

- Working with panel data enables us to avoid the arbitrariness with respect to determining the initial period for non-targeters.
- By adding dynamics, our empirical model incorporates the entire history of the variables.
- Our estimation procedure is capable of dealing with the endogeneity of inflation targeting.
- we investigate the effects of inflation targeting by controlling for several factors, such as: trade openness, foreign shocks, fiscal variables, exchange rate regimes, political factors.

Macroeconomic Effects of Inflation Targeting in Emerging Market Economies

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Data and Model Specification

- Annual data for a panel of 44 EMEs during 1970-2017.
- regimes, serving as a control group.
- The baseline specification of our empirical model:

$$y_{it} = \theta + \alpha y_{i,t-1} + \beta IT_{it} + \delta_k \sum_{k=1}^{K} X_{k,it} + \mu_i + \varepsilon_{it}$$

- y_{it} denotes the dependent variable for each separate specification: average inflation, inflation volatility, output growth, and output growth volatility, respectively.
- IT_{it} , is a dummy variable which equals 1 if country *n* is an inflation targeter in period t, and 0 otherwise.
- Control variables: output gap, trade openness, foreign shocks, public debt, budget surplus, exchange rate regimes, and political factors.
- We employ the system GMM estimator. In order to reduce the number of instruments, we have restricted the number of lags used as instruments for endogenous and predetermined variables along with collapsing the instrument set.
- We apply the Windmeijer (2005) finite sample correction of the two-step variance-covariance matrix.

		RESUI	15			
	sGMM	sGMM	sGMM	sGMM	sGMM	sGMM
Tecord in flation realstility	(1)	(2)	(3)	(4)	(5)	(6)
Lagged inflation volatinity	(0.131)	(0.139)	(0.113)	(0 143)	(0.141)	(0.127)
IT dummy	0.005***	0.005***	0.005***	0.004**	0.004***	0.005***
	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.002)
Foreign inflation volatility	0.250**	0.326***	0.333***	0.340*	0.313*	0.289*
Output gap volatility	0.398**	(0.121)	(0.114)	0.197)	(0.158)	(0.167)
(Hamilton filter)	(0.184)			(0.205)		
Output gap volatility		0.560***			0.485**	
(H-P filter)		(0.171)	A 240***		(0.230)	0.247**
Output growin volatility			0.348***			0.34/**
Budget surplus	0.006	0.009	0.013			(0.105)
5 I	(0.015)	(0.013)	(0.015)			
Budget surplus volatility				0.067	-0.020	-0.014
Fixed an abance actes demonstra	0.007**	0.005**	0.005**	(0.210)	(0.230)	(0.159)
r ixed exchange rates dummy	(0.003)	(0.002)	(0.002)	(0.003)	(0.003)	(0.003)
Terms of trade volatility	0.027*	0.031**	0.025*	0.028**	0.027**	0.027**
-	(0.014)	(0.013)	(0.013)	(0.013)	(0.012)	(0.011)
Constant	0.001	0.0008	0.001	0.001	0.001	0.001
Cross sections	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Number of instruments	41	41	41	41	41	41
AR(1) Test	0.102	0.091	0.119	0.118	0.094	0.116
AR(2) Test	0.573	0.518	0.636	0.569	0.514	0.627
Hansen J Test	0.542	0.442	0.480	0.226	0.194	0.433
		sGMM	sGMN	∕I sC	змм	sGMM
		sGMM (1)	sGMN (2)	/1 sC	ЭММ (3)	sGMM (4)
Lagged output growth vo	olatility	sGMM (1) 0.125***	sGMN (2) 0.139**	∕I sC ** 0.1	3MM (3) 14***	sGMM (4) 0.122***
Lagged output growth vo	olatility	sGMM (1) 0.125*** (0.042)	sGMN (2) 0.139** (0.042	/I sC ** 0.1 :) (0	3MM (3) 14*** 042)	sGMM (4) 0.122*** (0.042)
Lagged output growth vo IT dummy	olatility	sGMM (1) 0.125*** (0.042) -0.001***	sGMN (2) 0.139** (0.042 -0.0009	∕I sC ** 0.1 (0 ⊋* -0.1	GMM (3) 14*** 0042) 001**	sGMM (4) 0.122*** (0.042) -0.0008**
Lagged output growth vo IT dummy	olatility	sGMM (1) 0.125*** (0.042) -0.001*** (0.0004)	sGMN (2) 0.139** (0.042 -0.0009 (0.0003	A sC ** 0.1 (0 9* -0. 5) (0.	3MM (3) 14*** 0042) 001** 0004)	sGMM (4) 0.122*** (0.042) -0.0008** (0.0003)
Lagged output growth vo IT dummy Inflation volatility	olatility	sGMM (1) 0.125*** (0.042) -0.001*** (0.0004) 0.014	sGMN (2) 0.139** (0.042 -0.0009 (0.0009 -0.000	A sC ** 0.1 () (0 9* -0. 5) (0. 8 0	3MM (3) 14*** 042) 001** 0004) 0022	sGMM (4) 0.122*** (0.042) -0.0008** (0.0003) 0.012
Lagged output growth vo IT dummy Inflation volatility	olatility	sGMM (1) 0.125*** (0.042) -0.001*** (0.0004) 0.014 (0.029)	sGMN (2) 0.139** (0.042 -0.0009 (0.0009 -0.000 (0.038	A sC ** 0.1 () (0 9* -0. 5) (0. 8 0 6) (0	3MM (3) 14*** 0042) 001** 0004) 0022 0051)	sGMM (4) 0.122*** (0.042) -0.0008** (0.0003) 0.012 (0.044)
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Lagged output growth vo IT dummy Inflation volatility Foreign inflation volatilit Change of exports volatil	olatility ty lity	sGMM (1) 0.125*** (0.042) -0.001*** (0.0004) 0.014 (0.029) 0.083***	sGMN (2) 0.139** (0.042 -0.0009 (0.0009 (0.0009 (0.038 0.162** (0.049 0.072**	A sC ** 0.1 (0 ** -0. 5) (0. 5) (0. 8 0 (0 ** 0) ** 0.(0)	GMM (3) 14*** 0042) 001** 0004) 0022 0051)	sGMM (4) 0.122*** (0.042) -0.0008** (0.0003) 0.012 (0.044) 0.135* (0.068) 0.063***
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• 17 inflation targeters and 27 EMEs with different monetary

Results					
	OLS	FE	sGMM		
	(1)	(2)	(3)		
Lagged inflation	0.767***	0.640***	0.653***		
IT dummer	(0.029)	(0.064)	(0.072)		
11 duminy	-0.008****	-0.024***	-0.014**		
Foreign inflation	0.432***	0.560***	0.645***		
r oreign innation	(0056)	(0.060)	(0.126)		
Output gap	-0.275***	-0.305***	-0.667***		
1 0 1	(0.073)	(0.078)	(0.235)		
Public debt	0.007	0.034***	0.051*		
	(0.006)	(0.012)	(0.030)		
Fixed exchange rates dumm	y -0.009***	-0.010*	-0.018**		
	(0.003)	(0.005)	(0.008)		
Trade openness	-0.011**	0.012	-0.015*		
	(0.003)	(0.010)	(0.008)		
Constant	0.012**	-0.005	-0.0006		
	(0.005)	(0.010)	(0.015)		
AR(1) Test			0.006		
AR(2) Test			0.601		
Hansen J Test			0.317		
	OLS	FE	sGMM		
	(1)	(2)	(3)		
Lagged output growth	0.266***	0.186***	0.194***		
	(0.036)	(0.060)	(0.076)		
IT dummy	-0.00///***	-0.0056	-0.010		
Inflation	(0.0043) -0.060***	(0.0044) _0.061***	0.0073)		
mauon	(0.0159)	(0.019)	(0.045)		
Fixed exchange rates	0.0012	0.0044	0.0178		
dummy	(0.0030)	(0.0057)	(0.0122)		
Change of exports	0.103***	0.100***	0.107***		
	(0.0122)	(0.018)	(0.021)		
Short-term föreign debt	-0.0013	0.0024	-0.062		
	(0.0096)	(0.016)	(0.045)		
			<pre></pre>		
Public debt	-0.0093**	-0.0177**	-0.030*		
Constant	(0.0044)	(0.0062)	(0.015)		
Constant	0.038***	0.044***	0.053***		
	(0.0037)	(0.0062)	(0.0124)		
AR(1)			0.003		
AR(2)			0.500		
Hansen J test			0.326		

 \checkmark Our empirical study suggests that the advantages of inflation targeting in EMEs seem to be limited by the weak institutional and macroeconomic environment (low central bank credibility, lack of fiscal discipline, fragile financial sector, exposure to sudden capital flows and to adverse shocks, etc.) as well as the need to compromise inflation targets with other short-run goals (smoothing exchange rate fluctuations).

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Conclusion

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