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Features of exchange rate policy in inflation targeting countries

22ND INTERNATIONAL CONFERENCE ON MACROECONOMIC ANALYSIS
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- from 1999 to summer 2008 – de-jure managed floating exchange rate, in fact volatility of the nominal exchange rate was limited to 2%;
- from 2008 to 2014 – the Bank of Russia increased the flexibility of exchange rate policy by decreasing the volume of the central bank's intervention
- 10th November 2014 – the Bank of Russia stopped interventions in order to limit exchange rate volatility while retaining the right to conduct them to support financial stability;
- from February to May 2015 - the Bank of Russia didn't carry out interventions;
- May 2015 - the Bank of Russia announced the intervention rule and renewed interventions;
- July 2015 – The Bank of Russia stopped interventions, it has used only indirect measures to regulate the supply of foreign currency such as refinancing operations in foreign currency (currency refinancing). Exchange rate of ruble has been classified as free floating exchange rate.

METHODOLOGICAL ASPECTS: GLOBAL EXPERIENCE

	1998	1999	2001	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
	as % of total												
Fixed exchange rate	46,4	56,4	50,5	50,0	55,1	60,1	58,0	64,0	65,3	65,3	65,9	66,0	64,9
including hard peg			18,8	18,5	12,4	12,2	12,2	13,2	13,2	13,2	13,1	13,1	12,6
Floating exchange rate	56,4	46,9	49,5	50,0	44,9	39,9	42,0	36,0	34,7	34,7	34,0	34,0	35,1
including free floating	25,7	31,8	31,7	21,2	18,9	19,7	17,6	15,9	15,8	16,3	15,7	15,2	15,7
	the number of countries												
Fixed exchange rate	83	101	94	92	102	111	107	119	122	122	124	124	122
<i>including developing countries</i>	66	92	72	85	93	93	99	114	115	115	121	118	116
<i>including hard peg</i>		36	35	34	23	23	23	23	25	25	25	25	24
<i>including developing countries</i>		32	34	36	23	23	23	23	25	25	25	25	26
Floating exchange rate	101	84	92	92	83	74	78	67	65	65	64	64	66
<i>including developing countries</i>	88	61	76	67	57	57	50	36	35	36	33	35	36
including free floating	46	57	59	39	35	36	33	30	30	30	30	29	30
<i>including developing countries</i>	36	40	37	14	10	8	5	5	3	4	4	3 ⁴	3

IMF, 2008

Independently floating exchange rate is market determined, with any official foreign exchange market intervention aimed at moderating the rate of change and preventing undue fluctuations in the exchange rate, rather than establishing a level for it.

IMF, 2009

A floating exchange rate is largely market determined, without an ascertainable or predictable path for the rate. In particular, an exchange rate that satisfies the statistical criteria for a stabilized or a crawl-like arrangement will be classified as such unless it is clear that the stability of the exchange rate is not the result of official actions. Foreign exchange market intervention may be either direct or indirect, and such intervention serves to moderate the rate of change and prevent undue fluctuations in the exchange rate, but policies targeting a specific level of the exchange rate are incompatible with floating. Floating arrangements may exhibit more or less exchange rate volatility, depending on the size of the shocks affecting the economy.

A floating exchange rate can be classified as ***free floating*** if intervention occurs only exceptionally and aims to address disorderly market conditions and if the authorities have provided information or data confirming that intervention has been limited to at most three instances in the previous six months, each lasting no more than three business days. If the information or data required are not available to the IMF staff, the arrangement will be classified as floating.

Exchange rate arrangement	Methods of exchange rate regulation	Time period
The Bank of Mexico		
October 2008 floating exchange rate	– Limitation of exchange rate volatility, five unscheduled foreign exchange auctions, renewed interventions (\$400 mln per day) Unscheduled auctions, the volume of daily interventions decreased to \$300 mln per day	October 2008 February/ March 2009
	Renewal of foreign exchange auctions by the monetary authority to increase international reserves	February 2010
November 2011 free floating exchange rate	– Foreign exchange auctions stopped, the regulator reserved the right to sell US dollars in the amount of not more than 400 million dollars at a rate of 2% higher than the average for the previous month in case of the national currency depreciation by 2%	November 2011
May 2015	Foreign exchange auctions to sell dollars renewed if the national currency depreciated by more than 1,5% until July 31, 2015 and by 1% until November 2015.	November 2015
The Bank of Chile		
September 1999 free floating rate	– Intervention renewed to increase international reserves The regulator began to conduct currency swaps when the demand for currency increased The regulator began to sell currency from Reserve Fund on behalf of the government. The operations were carried out daily at 50 ml \$, then at 40 ml \$.	April 2008 September 08 2009
	Interventions were conducted to increase the international reserve.	2011
The Bank of Poland		
2011 – floating exchange rate	Six interventions were conducted to weaken exchange rate pressure and to support macroeconomic and financial stability	September/ November 11 ⁶
November 30, 2011 – free floating exchange rate		

$$L_t = \frac{1}{2} (R_t - R^*)^2 + \frac{\lambda}{2} \{ (\tilde{e}_t - e^*)^2 + \frac{\gamma}{3} (\tilde{e}_t - e^*)^3 \} \quad (1)$$

R_t –percent changes in foreign exchange reserves;

R^* is the optimal level of reserves;

λ is the relative weight ($\lambda > 0$);

\tilde{e}_t is the percent change in the exchange rate;

e_t is the foreign currency price of one unit of domestic currency and the NEER, respectively;

e^* is the Central Bank's exchange rate target;

γ is the asymmetric preference parameter on exchange rate stabilization

$$R_t = R^* - \lambda a_1 E_{t-1} \left\{ \tilde{e}_t + \frac{\gamma}{2} (\tilde{e}_t)^2 \right\} - \text{central bank's intervention function} \quad (2)$$

$$R_t = c + a \tilde{e}_t + \beta (\tilde{e}_t)^2 + v_t, \quad a = -a_1 \lambda, \quad \beta = -\lambda a_1 \frac{\gamma}{2} \quad (3)$$

$\gamma = \frac{2\beta}{\alpha}$ - is the asymmetric preference parameter on exchange rate stabilization

RESULTS OBTAINED BY PONTINES V., RAJAN R.S.

	Coefficients				
	<i>c</i>	<i>a</i>	β	$\gamma = 2\beta/a$	J-тест
For nominal exchange rate of national currency to US dollar					
Korea	0,479* (0,092)	-0,447* (0,045)	-0,104* (0,013)	0,467* (0,074)	14,78
Philippines	0,459* (0,169)	-0,872* (0,127)	-0,284* (0,070)	0,651* (0,113)	14,15
Thailand	0,552* (0,159)	-0,571* (0,114)	-0,165* (0,041)	0,578* (0,196)	13,95
Indonesia	0,681* (0,2)	-0,894* (0,166)	0,062* (0,017)	0,140* (0,020)	11,66
India	1,958* (0,160)	-2,663* (0,231)	-0,308* (0,050)	0,232* (0,025)	15,45
Singapore	0,589* (0,123)	-0,297* (0,9)	-0,105* (0,037)	0,707* (0,360)	12,94

* Denotes rejection of the null hypothesis that the true coefficient is zero at the 1% significance level.;

** Denotes rejection of the null hypothesis that the true coefficient is zero at the 5% significance level.

*** Denotes rejection of the null hypothesis that the true coefficient is zero at the 5% significance level.

J-test refers to the Hansen's test of over identifying restrictions, which is distributed as a $\chi^2(m)$ under the null hypothesis of valid over-identifying⁸ restrictions.

THE RESULTS OF THE ESTIMATION FOR RUSSIA

	2000-2007	2008-2016
c	3,2240 (1,178)	0,698 (0,310)
a	3,346 (1,044)	0,33 (0,112)
b	0,077 (1,382)	-0,24 (0,018)
<i>J-mecm</i>	<i>5,07</i>	<i>3,83</i>
Instruments	Foreign exchange reserve with lag of 1 month, nominal exchange rate with lag of 1 and 2 months, federal reserve rate with lag of 1 and 2 months	Foreign exchange reserve with lag of 1 month, nominal exchange rate with lag of 1 and 2 months, federal reserve rate with lag of 1 and 2 months

CONCLUSIONS

1. The exchange rate policy in developing countries remains the significant part of monetary policy after their transition to inflation targeting. Even in those countries that adhere to a freely floating exchange rate (Chile, Mexico, Poland), the monetary authorities renew currency interventions if the increasing volatility of the exchange rate threatens financial stability. Within the floating exchange rate framework the central banks' interventions are not aimed at maintaining any level of the exchange rate;
2. Foreign exchange interventions are conducted in compliance with the rule which describes the purpose, terms and conditions of currency transactions, solely for the purpose of easing exchange rate volatility and / or increasing foreign exchange reserves;
3. Foreign exchange interventions in inflation targeting countries are conducted in the pre-crisis period in order to limit the pace of national currency appreciation. The calculations have confirmed the inherent "fear of appreciation" for the nominal exchange rate during this period, while the appreciation of the nominal effective exchange rate did not stop the regulator.
4. Before the crisis the Bank of Russia, adhering to the de-jure managed floating exchange rate, conducted active currency interventions. The obtained results show that the Bank of Russia experienced the "fear of appreciation" for the nominal exchange rate during 2000-2007, but after the crisis the presence of the "fear of appreciation" has not been confirmed.



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THANK YOU FOR YOUR ATTENTION!

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