Exchange Rate Regimes and Monetary Policies in Emerging Markets: A Showdown for Few Theoretical Misconceptions

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ABSTRACT: *The purpose of this paper is to challenge couple of dangerous theoretical misconceptions in open-economy macro, namely, in respect to desirability or sustainability of available exchange rate regimes and inflation targeting framework and their mutual compatibility in small open economies with incomplete (emerging) markets.*

First of all, we dismiss the ruling »two corner solution« as dogma in scientific disguise. Furthermore, all the benefits of more flexible intermediate regimes (sliding currency bands) as well as empirical support of their wellbeing have been put forward.

As to the monetary policies, majority of transition countries recognised superiority of inflation targeting over alternative monetary concepts. However, until very recently some emerging market economies failed to realize the benefits of full-fledged -let alone flexible- inflation targeting. In what follows, the article counters another theoretical dogma: that inflation targeting in emerging market economies must go hand in hand with fully flexible exchange rate regime.

Having said that, and again contrary to the mainstream literature in the field, paper exposes some serious weaknesses of the so-called dirty (or managed) floating as an intermediate regime: in particular, its potential sub optimality in practice and its hidden incompatibility with widespread inflation targeting strategies.

Paper concludes by reiterating the inevitability of close relationship between inflation targeting and exchange rate targeting and hence suggests several possible reaction functions for the monetary authorities in emerging markets among those already laid out in the related literature.

Introduction

This is a theoretical, yet policy-oriented essay which tries to isolate and address several issues that have plagued the quest for optimal monetary and exchange rate policy in the emerging market countries for too long. Voices, opinions and paper-titles akin to the view taken in this discussion are thankfully gaining in strength and professional appreciation, while still remaining outnumbered and being considered quite a bit unorthodox. Hence, the flickering point in joining the band wagon of numerous papers written or being written on monetary and exchange rate policy issues.

The rest of the paper[1] is organised as follows: Section 2 depicts the still ruling dogmatism of the «two corner-solution», nonetheless confronted with the criticism of bipolar view and a look into reality, eventually reinforced by dismantling of the too rigid understanding of impossible trinity theorem. Section 3 (re)examines the potential, the rationale and empirical tests for relatively flexible currency bands of the so-called BBC breed. Section 4 brings in the notion of inflation targeting as a monetary strategy in emerging market countries, while stressing specificities and some of the intellectual wanderings that IT regimes have exhibited/undergone in small open economies.

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[1] This paper partly draws on research carried at and the hospitality of The Centre for the study of Global Governance of the LSE, where the author was a visiting fellow under the auspices of the FCO/OSI/LSE Faculty Development in South East Europe Programme.

Section 5 looks more carefully into the shortcomings and imminent incompatibility of the popular dirty floats in the presence of inflation targeting practices in emerging markets thus far. Subsequently, section 5 extends to overall appraisal of rationale and feasibility for simultaneous exchange rate and inflation targeting.

Rejection of «Two-corner solution»

In modern open-economy macro, there is a famous theoretical paradigm of the so-called «impossible trinity», which reminds us that a country cannot simultaneously keep complete liberalisation of international capital transactions, independence of monetary policy making and fixed value of national currency. Ignorance or inability to fully appreciate this theorem has recently placed many economies with fixed but adjustable exchange rate regimes in the epicentre of devastating international financial crises [Fischer, 2001]. Mexico, Thailand, Indonesia, South Korea, Czech Republic, former Yugoslavia, Argentina, India and Turkey are some examples of financial fiascos caused by unsustainable fixed (but adjustable) exchange rates. After the turbulent experience of 1990´s, leading theoreticians followed by emerging market policymakers forcefully rejected the wide spectrum of intermediate exchange rate arrangements between rigidly fixed and freely floating extremes. This bipolar view[2], preached by several leading macroeconomists in the world[3] was further acknowledged by the famous Metzler Commission. Bipolar view, alias two-corner solution, suggests that developing and transition countries, faced with fast and furious traits of financial globalisation, have only two feasible options when it comes to exchange rate management, if they are to shelter themselves from devastating effects of currency crises. Namely, either superfixed regimes like -for instance- very hard pegs, currency boards and dollarisation, or fully flexible exchange rates [Fisher, 2001], [Reinhart-Reinhart, 2003].

Closely related to bipolar view is Hausmann´s concept of «original sin», which claims that instability of emerging market currencies and low credibility (high sovereign and political risks) are eternal road-block to stabilisation and development efforts of their economies [Hausmann, 2002]. Their inabilities to borrow in domestic currency or clear the reputation of budget deficit-monetisers have been seen by Calvo as principal causes of the «fear of floating» in emerging markets, which also happens to be a rather superficial reason for apparent popularity of dirty floats in these countries lately [Calvo-Reinhart, 2000, 2000*]. In other words, although freely floating exchange rates are making extreme balance of payments crises and severe currency crashes next-to-impossible events (if we abstract from somewhat intrinsic FX volatility), despite the fact that they enable monetary autonomy and preservation of foreign exchange reserves, every more sizeable depreciation inevitably brings about a drop in living standard (since the wages/salaries are often sticky in local currency) and tightens the dollar-denominated debt noose. That, of course, retrospectively points towards the fixed corner of bipolar extremes. Moreover, international finance in the real world soon enough came out with the holy grail: managed or dirty float, currency regime that seems acceptable and sufficiently resemblant to fully flexible regime. This «revelation» fed the bipolar view even more voraciously, thereby epitomising the notion of the non-existing, or «the missing middle» [Goldstein, 2002]. In theory, however, managed or dirty floating assumes that the

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[2] As a result, number of IMF members who positioned themselves in one of the corners along the exchange rate regimes axis grew in period 1991-1999 from 39% to 66% [Goldstein, 2002].

[3] Larry Summers, being *primus inter pares*, then more nuanced Stan Fisher, as well as Jeff Frankel and Sergio Schmukler (although the last two oddly enough changed their mind somewhere along the road) [see Reinhart-Reinhart, 2003]. Nonetheless, the first who forged the term »two-corner solution« were in fact Barry Eichengreen, Maurice Obstfeld and Ken Rogoff in the mid 1990´s, yet from the view point of EMS members, not emerging markets [Frankel *et al.*, 2001, page 354].

value of national currency is being constantly determined in the forex market, only sporadically accompanied by central bank interventions in accordance with other urgently pressing legitimate objectives of macroeconomic policy making. Nevertheless, after scrutinising dirty floats through empirical tests of actual floating (with a null hypothesis that floating currency regimes arguably need neither gigantic foreign exchange reserves nor too often interventions in the forex market), practice has revealed that they are much more akin to dirty (camuflaged) fix than a managed float; see for instance [Hausmann-Panizza-Stein, 1999], [Detken-Gaspar, 2003]. And indeed, it has to be said that (super)fixed exchange rate regimes do display certain indisputable advantages. In the case of both currency board and dollarisation, inflation expectations are minimised, exchange rate -and overall macro- stability is initially achievable whereas currency risk related costs are almost non-existing (if reserves under board are big enough to support broad money rather than M1 or monetary base only). On the other hand, both dollarisation and as currency boards completely tie down hands of monetary authorities and expose the economy to often asymmetric exogenous shocks of the business cycle. Furthermore, sooner or later they entail overvaluation risk and imminent wages-productivity conflict (for currency boards), or loss of seignorage, legal problems with outright introduction of foreign currency and inflation typically higher than in the euro/dollar area as *contradictio in adjecto sui generis* (for dollarisation).

In a nutshell, there are minimum three crucial reasons why emerging market countries ideally should adopt neither of the extreme corner solutions, but rather opt for limited flexibily regimes of the «BBC» type:

• Even a partial autonomy in anticyclical monetary policy making always means a lot for fragile economies in transition.

• Modern forex and financial markets (and especially emerging ones) are ages away from stylised Arrow-Debreu world, therefore much of speculative trading is not stabilising as ones claimed by M. Friedman, but random at its very best!

• In presence of more serious import dependency and/or significant foreign indebtedness, it is neither credible nor feasible to expect from monetary authorities to completely give up exchange rate targeting.

In the context of «impossible trinity» dogma, the argument goes that although we cannot simultaneously fully liberalise capital flows and retain absolutely fixed exchange rate as well as absolutely independent monetary policy, nobody have ever said one couldn't partially control capital flows, and retain reasonably flexible currency rate and relative independence in formulating monetary policy [Williamson, 1999], [Frenkel *et alia*, 2001]! This impression is amplified by findings of several recent studies which have confronted *de facto* exercised with *de iure* adopted exchange rate regimes among the IMF members [Reinhart-Rogoff, 2004], [Frankel *et alia*, 2001], [Hausmann-Panizza-Stein, 1999]. Results of the mentioned studies show beyond any doubt that «the missing middle» is actually pretty densely populated by still practiced intermediate exchange rate regimes [see also Reinhart-Reinhart, 2003].

«BBC» intermediate regimes reconsidered

«BBC» exchange rates are as close as one gets to relative flexibility of the currency under evaluation. The main proponent of crawling/monitoring bands and alike regimes has been John Williamson (1996, 1999, 2000, 2000*). Its name «BBC» owes to the late Rudi Dornbusch, who humorously summarized regime's main ingredients: a basket (of currencies our currency is pegged against), a band within which its' floating is limited, and a crawl according to inflation differentials or other prespecified fundamentals. There are a number of advantages of such a regime. First of

all, exchange rate is not tied down but rather able to operate as a proper macroeconomic weather vane. Nevertheless, a publicly disclosed band could guide market expectations, thereby discouraging too excessive «noise trading». As opposed to the Krugman-ian well-known target zone concepts, «BBC» exchange rate regimes are much more akin to Jacob Frankel´s crawling band, which underlines the fact that, need be, the whole corridor should slide as frequent as possible in order to close the gap between the central parity and updated value of fundamental variables and/or algorithm chosen to be responsible for equilibrium exchange rate determination. On a top of it, in an exchange rate regime like this, intramarginal interventions should be prohibited, otherwise policymakers would tend to reduce it to *de facto* crawling peg while the market participants would not be able to differentiate «noise trading» from persistent «order flows» propped up by ever changing fundamentals.[4] In fact, all of the famous empirical studies which dismissed the mean-reverting trait of the exchange rate corridors, for instance [Flood-Rose-Mathieson, 1990], [Svensson 1991,1991*] and Neely [1994], dealt with detected «honeymoon effect» although it was a theoretical violation, whereas majority of existing studies further proposed full price flexibility as an odd marriage with sticky price reality of contemporary macro. Moreover, Bekaert and Gray (1998) and slightly later Andersen (2000), by modelling target zones in a discrete time, and by using non-parametric techniques and Monte Carlo simulations have clearly showed that exchange rate trajectory in absence of intramarginal interventions does display mild but nontrivial stabilisation effect (or S-shaped recovery in Krugman's own words)! Finally, perhaps the most convincing argument for mean-reverting character of crawling/monitoring bands was raised by Williamson (1999), who verifies that within a currency band (in comparison with free floats) spot rate movements are followed by much less volatile reactions of forward rates.

Inflation targeting in emerging markets

After considerable success which inflation targeting achieved in OECD countries (primarily in terms of price stability), it is swiftly becoming the holy bible of monetary policy making in developing countries and emerging markets, too. Nonetheless, lagging behind the contagious fashion, there is still barely a handful of serious studies that examine the compatibility of textbook IT design with transitional peculiarities of emerging markets. In terms of voluminous mainstream literature, however, supremacy of inflation targeting over thus far identified alternative monetary strategies is strikingly obvious. Instead of irrelevant or ineffective targeting of monetary aggregates on one hand, and virtually impossible targeting of nominal output on the other [Eichengreen, 2002], inflation targeting concentrates directly on price stability and, if not too rigidly aimed at, under certain well known preconditions simultaneously stabilises output gap around its natural level [Blanchard, 2003]. Moreover, since «we are all dead in the long run», inflation targeting also has understandable advantage over price level targeting, advocated by Svensson (1997), Dehejia and Rowe (2000), and Ball, Mankiw and Reis (2003), since IT regimes tolerate so-called base-drift which enables additional anticyclical flexibility and keeps the focus on price differences rather than prices themselves.[5] On a top of proclaiming mid-term numerical inflation target for

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[4] The idea is that honeymoon-free (no marginal interventions), wide enough currency bands leave reasonably sufficient space and time to identify more robust/durable exchange rate movements and hence distinguish them from temporary "noise" at FX market. However, it is true that even under such a regime we cannot always be 100% sure regarding the exact nature of exchange rate dynamics at hand.

[5] It is in order to say that, if one ignores the concern about time inconsistency and credibility of central bank's commitment to price-level targeting, superiority of price-level targeting over inflation targeting could indeed materialize in the long-run, yet at the short-run expense in terms of GDP and inflation volatility, brought about by rectifying the base-drift intolerance.

monetary authorities, full-fledged inflation targeting strategy assumes institutional support and informational intensity as well as maximum transparency in explaining the concept and operative policy of the central bank [Mishkin, 2000].

As prerequisites for successful implementation of inflation targeting in transition countries, we choose to stress the following from the latest (and scarce) literature [Fraga-Goldfajn-Minella, 2003], [Jonas-Mishkin, 2003], [Przystupa, 2002]:

1. Well understood transmition mechanism from exchange rate into inflation as well as feed-back influence of instrument rule on inflation.

2. Balanced budget and absence of the so-called fiscal dominance

3. Reasonably well developed financial system

4. Institutional and actual independence and transparency of central bank

5. Freely floating exchange rate, i.e. absence of any other nominal anchor apart from inflation target.

However, in our opinion, already an academic consensus stated under *5)*, represents a dogmatic misconception and should be ruled out, at least for small open economies in transition with fragile and emerging markets. Without properly developed hedging instruments coupled with the lack of domestic savings, speculative attacks on official reserves and, broadly speaking, exogenous shocks for capital flows cause significant volatility of exchange rate and economic activity if exchange rate is totally neglected by monetary authorities. Moreover, even if exchange rate pass-through in emerging markets appears to be dramatically lower than *a priori* expected,[6] many authors claim that in economies with rich and recent history of monetary instability, exchange rate stubbornly remains to be the focal point of inflation expectations. At last, but not least, exchange rate oscillations apparently exhibit strong impact on profitability of firms and sectors of emerging markets, even when aggregate indicators give reason for self-confidence [Røisland-Torvik, 2000], [Ball, 2001].

As a matter of fact, empirical evidence on exchange rate policies effectively exercised in such economies shows that monetary authorities knew all too good the dangers of completely giving up the exchange rate, yet potential or actual malfunctioning of IT regime often came about for completely opposite reasons – namely too little floating disguised under politically correct fad: managed or dirty float [Malovic, 2006].

Be that as it may, a handful of serious studies of inflation targeting in emerging markets detected several more problems or potential limitations of IT regimes in transition reality [Eichengreen, 2002], [Fraga-Goldfajn-Minella, 2003], [Ho-McCauley, 2003], [Jonas-Mishkin, 2003]: a) credibility, especially under strict (point) targets and lack of communication and reporting; b) appropriateness of inflation measure chosen to be targeted; c) too high partial dollarisation of economy; d) inherent imprecision of inflation forecasting; d) feasibility of softening the edges of inflation band targeted if the need arises, and specifically e) too rigid –implicit or explicit exchange rate targeting.

Regarding the credibility of inflation targeting strategy, this short experience of emerging market economies seemingly shows that strict inflation targeting, i.e. taking responsibility for hitting the point announced might not be very credible after all. Since statistical base and experience may typically be lacking, whereas administrative control of quite a few prices and ongoing tax reforms in emerging market countries are evidently still deployed [Jonas-Mishkin, 2003], it is certainly much safer and more credible to commit to targeting inflation within a range than its par-

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[6] Indeed, in many transition countries exchange rate pass-through, initially believed to be close to 1, turned out to be significantly lower than 1, in some cases even less than 0.5. See [Ho-McCauley, 2003], [Hausman-Panizza-Stein, 1999].

ticular level. Even more so should politically motivated conflicts between fiscal expansion and monetary commitments arise.

In respect to inflation measure one should stick to, we agree with the thin minority of opinions that –unless any other index has been previously used for sufficiently long time prior to introduction of inflation targeting - CPI dynamics is the most appropriate measure of inflation that a bloke in the street really cares about. Having said that, one cannot be unaware of the difficulties to control some of the components of CPI inflation that seem to be out of direct and immediate reach of central banks' policies, as pointed out by advocates of core inflation concept. However, it is common knowledge that core inflation concept excludes several important prices with systemic secondary consequences for the overall inflation. Hence, even if one rules out the possibility that obscurity is the exact reason for the weapon of choice, core inflation is often at the verge of missing the point as far as general public is concerned: namely, if you are targeting something that´s not completely relevant for the behaviour of the market you strive to control, that might easily pinch some rhyme or reason out of the whole business.

Nonetheless, perhaps principal cause of problems with IT in emerging market countries is proverbially massive dollarisation of economy and specifically of its external as well as domestic liabilities. Notorious volatility of international capital flows and «pillow nature» of savings in emerging markets exacerbate monetary policy challenges further still. According to Fraga, Goldfajn and Minella (2003), typical sequence of events in such a constellation goes like this: «sudden stop» phenomenon a la Calvo heavily influences nominal (and real) exchange rate, which in turn via pass-through effect fuels the inflation, so that consequently restrictive monetary policy catapults interest rates and thereby inflicts third generation financial crises onto fragile banking cum corporate sector (both burdened with hard-currency-indexed liabilities), instead of bringing about stabilisation. One way of dealing with the volatility of capital flows is unavoidably a Krugman-ian (2000) version of the Tobin tax, i.e. pecuniary check-point installed on the way in rather than on the way out. Severe dollarisation problem in many emerging markets, as a flip-side of the bad old Gresham's law, alas, is likely to consume much more time and credibility effort. However, dollarisation (as a phenomenon, not as an exchange rate regime) is to the extent endogenous to a lagged observations of the adopted monetary policy regime [Batini *et alia*, 2006], so that establishing disinflation together with rising export performance through credible policy rules is likely to eventually crowd out dollarisation to acceptable levels. Probably the key ingredient for success in the afore mentioned ball-game rests once again with the ability to reassure market participants that currency stability and exchange rate fixing are not one and the same thing...

In addition, inherent imprecision of inflation forecasting apparently did not restrain few emerging market countries from flirting with incomplete yet narrow inflation targeting in the early days of their IT experience. Nowadays virtually all inflation targeters in emerging markets realise the benefits of flexible inflation targeting, since targeting a band instead of a point doesn't make central banker less of a sharp shooter, but makes him a wiser one. The latest empirical evidence implies that hitting the often impossibly strict inflation target may be less crucial for regime's success than the sustained pursuit of improvements and publicly released revision of reasons for violating the forecast once the framework has been adopted [Batini *et alia*, 2006]. Moreover, leaving a bit more room for targeted inflation enables monetary authorities to acknowledge (if not pursue) other legitimate goals of macroeconomic policy, economic growth and employment being the first two coming to economist's mind. Goals that, mind you, tend to be even more pressing in emerging market reality. Therefore, flexible inflation targeting implies a trade-off between stabilising inflation around and within the precommitted inflation target and minimising output gap defined as departure of current output from its natural level or otherwise defined potential.

However, as previously stated, most studies on inflation targeting have tended to ignore the emerging market reality and open economy issues. Woodford (2003), for instance, in his seminal book on monetary policy and inflation targeting in particular practically does not deal with open economy issues and exchange rates at all. In the meanwhile, apart from eight industrial countries which exercise full-fledged inflation targeting, there are more than 15 emerging market economies that opted for either informal or full-fledged inflation targeting. Majority of those latter ones in reality opted for –often strict at onset- inflation targets coupled with managed floats. Therefore, the last section examines the feasibility, rationale as well as potential pitfalls of simultaneous exchange rate and inflation targeting.

«BBC plus» - simultaneous exchange rate and inflation targeting

«BBC plus», catch-phrase from the title of this section, is actually paroding Goldstein's (2002) famous «dirty floating plus», which posits the latest professional fad, that managed floating endures all identified challenges of IT in small open economies and that these two are an item. The argument goes that since emerging markets countries cannot abstain from exchange rate targeting even under IT regime, then they should manage exchange rate «under the table», intervene and manage «silently», «in the dark», without precommitment to any last ditch that would have to be defended. Thereby we would still be able to avoid speculative attacks, keep central bank's reserves safe while successfully controlling inflation.

But, is there something fishy with the matrimony of dirty float and an inflation targeting regime? In theory, managed floating plus represents an IT package which should indeed retain all the desirable features of relatively flexible exchange rate regime while still being able to address nominal anchor and balance-sheet issues critical for emerging market economies. However, too aggressive and fearful interventions in practice fall far from correcting currency mismatches, as a matter of fact, they often turn into conservation of fragile macroeconomic stability via tying down interest rates and exchange rate itself, thereby threatening with recessionary consequences the very (and alas often unrealistically low) inflation target they aim to preserve. In addition to that, especially when coupled with too narrow inflation targets,[7] dirty floats become, ironically, rather prone to speculative attacks of the first generation type as explained by Kumhof [2001]. Finally, our principal critique of «managed floating plus» has to do with the efficiency (and effectiveness for that matter) of sterilised foreign exchange interventions, that are so persistently carried out in emerging markets on an ever growing scale. Bofinger and Wollmershaeuser (2003), as the most famous advocates of managed floating, by dedicating almost a third of their managed floating study to sterilisation issues, implicitly admit that utility and usefulness of dirty floats depend on the ability to effectively and efficiently sterilise foreign capital inflows. Moreover, Bofinger and Wollmershaeuser (2003) recognise that if we care about monetary concept broader than high-powered money, as most central banks nowadays do, successful sterilisation of foreign capital inflows is identically equivalent to interest rate targeting. Now, if we are severely limiting the motion of reference interest rate (typically 2W to 3M repo), then we are losing degrees of freedom in trying to implicitly target exchange rate by targeting interest rate which is by definition a principal instrument in controlling inflation target!? Let alone the steeply rising quasi-fiscal costs of any prolonged sterilisation [Kumhof, 2000], [Kletzer-Spiegel, 2002]...

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[7] In essence, strict inflation targets are almost equivalent to hard effective exchange rate pegs, with all the dangers of committing to such a numerical target in the case of speculative attack on foreign reserves [Calvo, 2000], [Kumhof-Li-Yan, 2001]. If the Ricardian equivalence is violated, while the currency is too heavily "managed", speculative attack tends to simply relocate from one nominal anchor and forex market to another (inflation target) and government securities market as in [Kumhof, 2001] and [Corsseti-Mackowiak, 2003].

Be that as it may, does that mean that we could abandon exchange rate targeting all together in small open economies once the inflation targeting regime is in place? Or is there still a role for auxiliary anchor, especially having in mind conveniently soft edges of sufficiently wide monitoring bands designed by Tarapore Committee of the Indian central bank, which allow resorting to stretching clause in the event of temporary but massive non fundamental shocks [Williamson, 2000*]? Moreover, until the dirty float come-back, economists seemed to agree upon the supremacy of well-designed transparent rules over under the table non-committed discretion. By not having the opinion on whereabouts of central parity (nominal and/or real effective exchange rate) or by hiding that information from the public, do central banks of managed floaters add up to transparency of IT regime and their interest rules as well as reaction functions? After all, whom are proponents of dirty floating plus trying to fool, by claiming that -in high pass-through and highly indebted environment- once authorities choose the inflation target and its «maturity», speculators cannot feel the trend of exchange rate puls even if «Maginot lines» are not formally announced, since dirty pegged exchange rate is the main worn-out instrument for controlling reflation? For ought we care, all the answers to previous rethoric are bound to be negative.

In as much as non-zero pass-through from exchange rate affects inflation as well as to the extent that any more serious exchange rate misalignment affects output gap, it is painfully obvious that every emerging market central bank would have to keep a close eye on relationship between inflation targeting and national currency movements and react through some kind of Taylor rules, even if there is no publicly announced exchange rate targeting [Clarida, 2001], [Eichengreen, 2002], [Flamini, 2003]. On a top of it, all prospective candidates for sooner or later E(M)U membership, including those which have already introduced inflation targeting,[8] will have to introduce very formal and irrevocable exchange rate target zones within the ERM II: target zones for which much more flexible yet similar «BBC» regimes appear to be a good starting point and an excellent iterative interim solution.[9]

Nevertheless, the question of whether exchange rate targeting should be an independent, explicitly modelled particle of central bank´s reaction function remains a bitterly debated puzzle in contemporary open economy macroeconomics. Batini *et alia* (2006) in general, Bufman and Leiderman (1999) and Brenner and Sokoler (2001) in the case of Israel, Jonas and Mishkin (2003) for Hungary, Morande (2001) and Schmidt-Hebbel and Tapia (2003) in the case of Chile, to name only the few, express poorly-documented concern for possible dynamic inconsistency between (or even reason for existence of) two nominal anchors. As far as potential conflicts between simultaneous achievement of inflation target and exchange rate target are concerned, after thorough examination of Chilean, Israeli and Hungarian case, our conclusion is that eventual conflict between inflation and exchange rate target can (yet by no means must) happen either when the level and/or width of target zones is ill-chosen (often set unrealistically low and narrow), or as a consequence of too steeply predetermined rate of currency crawl. As a residue, equally serious pitfall for «BBC plus» and alike policy mix opens up out of controversial ambition of monetary authorities in emerging markets to overly exploit sterilised intervention in order to simultaneously accomplish several mutually excluding goals [Malovic, 2006].[10] Otherwise, direction if not magnitude of nominal ex-

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[8] For example Romania, Turkey and Serbia.

[9] It goes without saying that within fixed, non sliding currency band preconceived under ERM II all of the perils of pre-committed pegging are once again threatening countries' exchange rate targets, even more so since the ECB in practice insists upon much thinner corridors than officially proclaimed, yet one should not forget that responsibility for defending such a target zone rests not only with the national central bank in question, but with the ECB itself too.

[10] Political leaders often utter the pressing need to attract as much FDI as possible and provide growth while simultaneously urging for decreasing or even overthrowing balance of payments deficits. Similarly, emerging markets frequently strive to obtain massive capital inflows in prolonged periods yet to avoid either premature debt repayment, their currencies' appreciation or increase in inflation as a corollary of abandoning sterilization policy.

change rate movements within the band and inflation dynamics within the targeted corridor ought to be fairly compatible. Regarding the rationale for their simultaneous existence, one of the best explanations so far as to why this may be a good idea and in fact may enhance the social welfare (further minimise central bank's loss function) is the one given by Edwards (2006, pages 22-23), who rightfully realises that when there is a lag in reaction of both inflation and output gap to exchange rate changes, «(…) the central bank may want to pre-empt their effect by adjusting the policy stance when the exchange rate change occurs, rather then when its effects on inflation and output are manifested».

Therefore, for small open economies with fragile emerging markets central bank's loss function (that we are trying to minimise) obviously cannot be of the simplest flexible inflation targeting form:

$$\Lambda = \frac{1}{2}\Big[\big(\pi_{t+1} - \pi^T\big)^2 + o^T (y_{t+1} - y^T)^2 \Big]$$

Eichengreen's (2002) and Woodford's (2003) specification which includes a concern for limiting variability of interest rates observable in many transition countries is perhaps acceptable, but probably suffers from the same instrumental and operational pitfalls already assigned to managed floating plus:[11]

$$\Lambda = \pi_{t+1}^2 + o_y^T (y_{t+1} - y^T)^2 + o_\varepsilon^T (i_{t+1} - i^T)^2$$

Hence, it is advisable for emerging market central bankers to explicitly adopt logarithmic version of flexible nominal effective exchange rate target following Svensson (2004):[12]

$$\Lambda_t = \big(\pi_{t+1} - \pi^T\big)^2 + o^T \big(y_{t+1} - y^T\big)^2 + (\text{\euro}_{t+1} - \text{\euro}^T)^2$$

Naturally, this kind of objective function must not degenerate into manipulating the real exchange rate. Moreover, even (wide enough) sliding currency corridor let alone monitoring band would enable "BBC plus" enough flexibility to tolerate transitional nonfundamental exchange rate fluctuations. At the same time, transparency of exchange rate regime and its stabilisation properties would be preserved [Forbes-Kofman, 1998], without confusion in regard to the primacy of inflation target over auxiliary nominal anchor.

To the extent that nature of exchange rate fluctuations is not readily verifiable, Ball (1998) suggests another way to avoid the "exchange rate whiplashing", namely, central bankers could choose to target longer run inflation, which again depends upon lagged value of currency rate, although in the instrument rule one gets only the output channel utilized to control inflation.[13]

However, Ball (2001) implicitly admits that, unlike market participants in Australia, emerging markets share the Keynesian view of the long run, by advocating his Monetary Conditions Index as an optimal instrument rule for small open economies. MCI rule appoints simultaneous fine-tuned interest rate and exchange rate management in order to achieve inflation target, with real exchange rate target on the left side if we assign it primarily the role of instrument (operating

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[11] For the purpose of sketching several convenient ways of including some other variables (exchange rate being *primus inter pares*) into central banks objective function in emerging small open economy version of inflation targeting, we abstract from legitimate need to refine formulae with precise definition and/or calibration of weights, as well as acknowledge often autoregressive nature of inflation. For more on those issues consult for example Svensson and Woodford (2003).

[12] Indeed, one could also target real (rather than nominal) exchange rate. Svensson proposes that as an alternative too in the same presentation.

[13] Surely the best yet only theoretical option (out of statistical reach) for most emerging markets would be the ability to break down output gap into its tradable and nontradable component. Following Svensson (2004), one would minimize $\Lambda_t = \big(\pi_{t+1} - \pi^T\big)^2 + o_T{}^T \big(y_{T(t+1)} - y_T{}^T\big)^2 + o_N{}^T \big(y_{N(t+1)} - y_N{}^T\big)^2$, with more than obvious implicit presence of real exchange rate concern once again.

target) or on the right side if its limited floating is simply an indicator to be taken into consideration [Ball, 2001]:

$$\phi i_R + (1-\phi)\varepsilon_R = \vartheta^T\left(\pi_t - \pi_{t-1}\right) + o_y^T\left(v_t - v^T\right)$$

$$i_R = \frac{\vartheta^T}{\phi}\left(\pi_t - \pi_{t-1}\right) + \frac{o_y^T}{\phi}\left(v_t - v^T\right) - \left(\frac{1-\phi}{\phi}\right)\varepsilon_R$$

In those two mathematically identical formulae, v represents the output gap while ϕ indicates the weight given to real interest rate in the policy mix. Faced with repeatedly occurring Calvo shocks, simultaneous exchange rate and inflation targeting policy fares better than simple inflation-centred interest rate rule: in such a setting, sudden capital flight provokes interest rate hike which compensates for real exchange rate depreciation caused by the balance of payments disequilibrium. In fact, keeping MCI in check lowers domestic spending (via interest rate channel) whereas increases net export (via real exchange rate channel) and thereby restores balance of payments and stabilises output. Nevertheless, it is fair to say that this conventional interpretation of MCI might reveal inferior stabilisation properties as opposed to Taylor rule in the face of Prebisch-adversity (net export revenue shock) [Ball, 2001]. However, more careful alternative specifications, such as taking care of policy maker's preferences and direct exchange rate-domestic inflation link as in Guender (2005), as well as rethinking the role of relative prices in effectiveness of exchange rate as a shock absorber as demonstrated in Edwards (2006), could rule out such deficiencies.

Conclusion

This paper has tried to argue that contrary to Taylor (2001) and officially preached stance of many central banks in small open economies, exchange rate targeting does play an important role in the conduct of optimal monetary policy. After acknowledging the supremacy of somewhat forgotten sliding currency bands vis-à-vis the still ruling bipolar view, on one hand, as well as vis-à-vis the latest dirty floating fad, on the other, paper turns to specificities of inflation targeting in emerging markets as well as rationale for *versus* potential pitfalls of simultaneous exchange rate and inflation targeting.

Discussion has been closed by reiterating the inevitability of close relationship between inflation targeting and exchange rate targeting. Hence, several possible reaction functions for the monetary authorities in emerging markets were suggested, among those already laid out in the related literature.

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