

Turkey Macro View

Where is the CBT's unconventional journey heading?

- This report aims at providing a comprehensive assessment of the CBT's unconventional monetary policy, which has stimulated much debate since its inception in November 2010. We also discuss the possible unintended consequences of the CBT's unorthodox framework and the likely trajectory of monetary policy going forward.
- We do appreciate the constrained environment that the CBT faces in the conduct of monetary policy. As is the case with other emerging economies with open capital accounts, keeping inflation close to the target, while endeavoring to deter short-term capital inflows, is a challenging task. We also recognize that recent policy discussions have made a case for a broader set of objectives for monetary policy in addition to price stability. However, this debate is by no means settled, as the superiority of the proposed modifications to monetary policy over the current *flexible inflation targeting regime* is not well established, neither in theory nor in practice.
- Based on our analysis, we find it difficult to consider the CBT's unorthodox strategy as a natural extension of monetary policy under extraordinary circumstances. Our investigation suggests that the case for the unorthodox policy mix was unpersuasive not just because the approach lacked a sound analytical framework, but also other standard policies (fiscal, prudential and structural) were not fully utilized.
- Our findings lead us to question the consistency and the effectiveness of the CBT's approach. We believe that excessive discretion, over-response to short-term events, while underestimating long-term consequences of its policy actions, and assuming responsibilities outside the Central Bank's modus operandi, mean that the CBT's current approach doesn't bode well for restoring price stability and providing a solid anchor for inflation expectations. In the sphere of monetary policy, we believe that a regime that pursues ambitious goals doesn't necessarily produce better outcomes than a framework that sticks to the basics.
- The CBT has frequently overshot its inflation target, which, in our view, has been costly. The cumulative increase in the price level since 2005 has been 82.3%. Had the CBT met its targets since 2005, the price level would be about 52.2% higher today. Given the adverse consequences of inflation for competitiveness and growth, the CBT's relatively high tolerance to overshooting its targets looks hard to justify.
- All in all, we believe that the CBT's unconventional approach is likely to come under increasing strains going forward in the absence of brisk capital inflows. Delaying monetary policy normalization, which would entail removing the interest rate corridor and raising the single policy rate in the spirit of a standard inflation targeting framework, is likely to require an even sharper response later—a painful lesson learned during the first phase of the CBT's unorthodox strategy.

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Road to Unconventional Monetary Policy

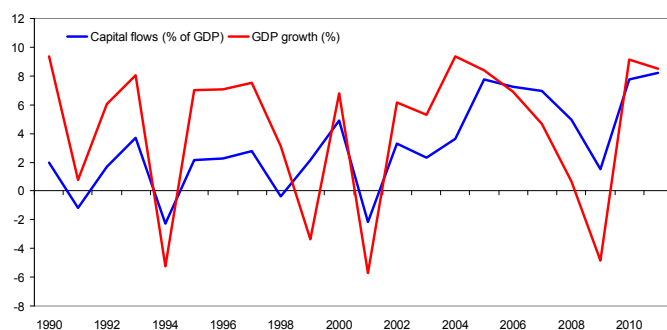
Although Turkey experienced a robust rebound from the 2008-09 global crisis...

...a number of important structural challenges—such as a sizeable competitiveness gap and low savings—have become more evident during the process of the post-crisis recovery.

Turkey entered the global turmoil with a stronger balance sheet than most of its peers in the region thanks largely to deep-seated institutional reforms and improved policy frameworks adopted in the aftermath of the 2001 financial crisis. As a result, the authorities were able pursue decisive accommodative policies, which paved the path for a strong recovery following the sharp contraction in 2009. After shrinking by about 5% in 2009, growth reached 9.2% in 2010 and 8.5% in 2011 on the back of a robust recovery in domestic demand.

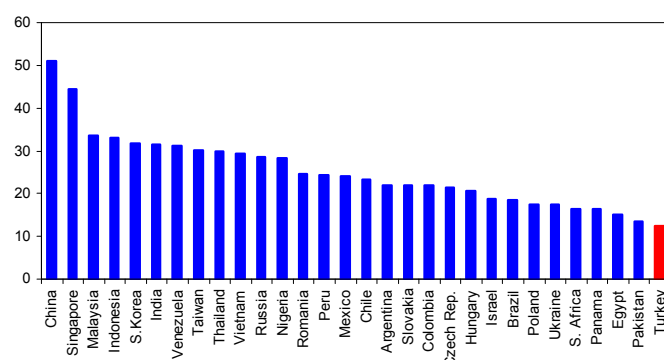
Although the country's output has risen well above pre-crisis levels, it has become more evident that a number of important challenges remain unattended. In particular, the country's growth relies excessively on foreign savings (Figure 1). This feature of the Turkish economy, which is underpinned by low savings (Figure 2) and a sizeable competitiveness gap, has started to attract a great deal of attention, as loose macroeconomic policies (Figure 3), through fuelling domestic demand, led to a record wide current account gap of 10% of GDP in 2011.

Figure 1. Capital Flows and Economic Growth



Source: Haver and Citi Research

Figure 2. Savings (% of GDP)



Source: IMF (WEO, 2012)

Strengthening domestic saving—through increasing the structural surplus of the public sector—and pressing ahead with structural reforms aimed at buttressing competitiveness/productivity emerge as key policy priorities for promoting more sustainable growth.

We believe more predictable policies would boost credibility and support the policy efforts aimed at attaining the above-noted goals.

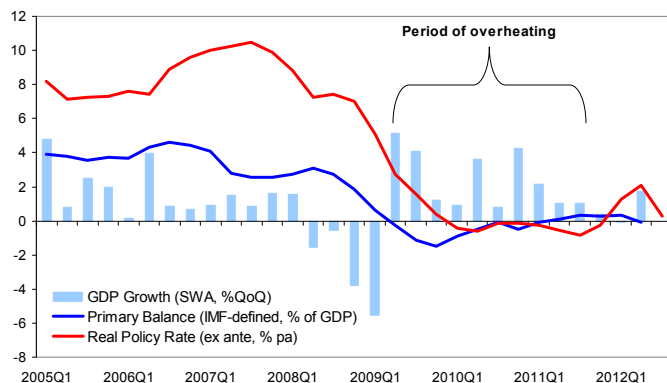
In light of the above-noted backdrop, we believe that policy efforts should aim to increase the domestic saving rate and focus on Turkey's structural challenges (Figure 4).¹ Concerning the latter, as can be seen from Figure 4, Turkey needs to make progress on a number of areas to bolster its competitiveness (labor and product market reforms, improving higher education/training, etc).² Regarding the former, the most obvious and direct way to strengthen domestic saving is to increase the structural surplus of the public sector. This, coupled with structural reform measures directed at buttressing productivity, can initiate a positive growth dynamics that will yield a rapid increase in private saving since when growth rises in a sustained manner, it will also promote higher savings.

Private sector saving and investment behavior is unlikely be transformed without a credible shift in the policy regime, which would, *inter alia*, require a more rule-based policy framework for monetary and fiscal policy. Objectives of economic policy such as stable growth and low inflation are more readily achieved if the public understands what the policymaker is doing and believes that past and prospective actions are related to the objectives. Consequently, we argue that policymakers should pursue predictable policies to buttress their credibility.

¹See Dani Rodrik (2012), "The Turkish Economy after the Global Financial Crisis", *Ekonomi-tek*, No: 1, for more on this.

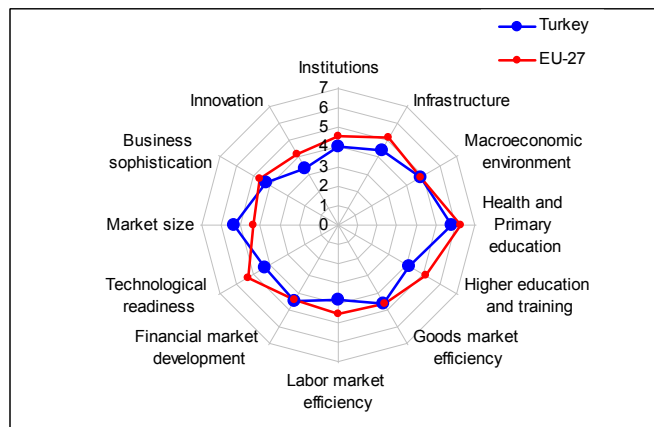
²See OECD Economic Surveys on Turkey (2012) for a comprehensive discussion of this issue.

Figure 3. Growth, Primary Balance and the Real Policy Rate



Source: Haver and Citi Research Note: One-off amnesty related revenues are excluded.

Figure 4. Competitiveness (WEF, 2012-2013)



Source: World Economic Forum. Note: Higher numbers represent a more favorable standing.

An unconventional monetary policy has constituted the lynchpin of the authorities' response to the above-noted structural tensions and macroeconomic imbalances.

This note aims at: (i) providing a comprehensive analysis of the CBT's unorthodox strategy and its effectiveness; and (ii) shedding more light on the likely trajectory of monetary policy going forward.

Citing inadequacy of conventional policies, the CBT embarked on an unconventional policy mix...

...consisting of lowering interest rates to fend off hot money inflows and increasing required reserve ratios to moderate rapid loan growth.

An unconventional monetary policy, which was introduced towards the end of 2010, has constituted the centerpiece of the authorities' response to the above-noted backdrop. Specifically, the CBT—by modifying the inflation targeting framework—has embarked on an unorthodox strategy aimed at deterring short-term capital inflows and containing credit growth, while also managing output, exchange rate and inflation volatility.

The CBT's unconventional monetary policy approach has triggered considerable confusion and controversy. Against this backdrop and based on the available evidence, we evaluate the performance of the CBT's unconventional framework. We also discuss the possible unintended consequences of the CBT's strategy and the likely trajectory of monetary policy going forward, which is admittedly a difficult undertaking in this fluid global environment.

Unconventional Policy: Stage 1 (mid Nov 10-early Oct 11)

In November 2010, the CBT revealed that it would pursue an unorthodox policy mix to tackle the marked widening of the current account deficit and rapid credit expansion—both of which, according to the Bank, posed a serious threat to financial stability. Specifically, the CBT argued that conventional policies would be counterproductive for at least two reasons:

- The elasticity of demand for credit to interest rates in Turkey is low; and
- Raising the policy rate would attract further short-term capital flows, thereby aggravating imbalances in the economy.

Against this backdrop, the CBT concluded that the optimal policy response would entail lowering interest rates to fend off hot money inflows, while increasing required reserve ratios to moderate rapid loan growth. In fact, the CBT took a fairly assertive position that links the current account deficit with credit growth and argued that slowing loan growth to 25% in 2011 would keep the current account gap at 5.4% of GDP (Figure 5).

Figure 5. CBT's Framework Linking Credit Growth with the Current Account Deficit

Current account gap = Credit growth – Deposit Growth + Public Sector Borrowing Requirement + Other*

2011 Credit Growth (%YoY)	2011 C/A Deficit (% of GDP)
15	1.2
20	3.3
25	5.4
30	7.5
35	9.6

Source: CBT (December 22, 2010) *includes FDI, portfolio investment etc.

Shrugging off the obvious signs of overheating, the CBT cut its policy rate to 5.75% in August 2011 from 7.0% in October 2010.

Guided by the above-mentioned principles of the so called modified inflation targeting framework, the CBT cut its policy rate from 7.0% in October 2010 to 5.75% in August 2011, shrugging off the obvious signs of overheating (Figure 6). Concurrently, the Bank increased RRR to as high as 16% for demand and 1-month deposits. Regarding the effectiveness of its RRR hikes in containing credit expansion, the CBT asserted that substitutability between CBT funding and deposits would weaken considerably after a certain *threshold* if reserve requirements were to be increased sufficiently. Consequently, it was argued that banks would eventually adjust their liquidity position through asset reallocation, which would, in turn, promote more prudent lending behavior.

Figure 6. Key Monetary Policy Actions (November 2010-September 2011)

	Policy Actions		
	Interest Rate	RRR	FX
Nov-10	Cut borrowing rate to 1.75% from 5.75%.	Raised RRR on TRY deposits to 6.0%*	
Dec-10	- Cut policy rate by 50bp to 6.50% - Cut borrowing rate to 1.5% from 1.75% - Raised lending rate to 9% from 8.75%	Started differentiating RRR according to maturity structure (raised RRR to 8% up to 1-m, 7% up to 6-m)	Daily FX purchase auction amount is raised to US\$50mn from \$40mn**
Jan-11	Cut policy rate by 25bp to 6.25%		
Feb-11	...	Raised RRR for TRY deposits (12% for demand, 10% for 1-m, 9% for 3-m)	
Mar-11	...		
Apr-11	...	Raised RRR for TRY deposits (16% for demand, 16% for 1-m, 13% for 3-m, 9% to 6-m)	
May-11	...		Daily FX purchase auction amount is reduced to US\$40mn from US\$50mn
Jun-11	...		Daily FX purchase auction amount is reduced to US\$30mn from US\$40mn
Jul-11	...	Cut RRR for FX deposits (to 10% for 1-y +)	Daily FX purchase auctions are suspended on July 25, 2011
Aug-11	-Cut policy rate by 50bp to 5.75% - Increased borrowing rate to 5% from 1.5%	Cut RRR for FX deposits (to 11.5% for all maturities up to 1y and to 9.5% for 1y +) Up to 10% of TRY liabilities can be held in FX	Daily FX selling auctions launched on August 5, 2011 with no guideline on the size
Sep-11	...		

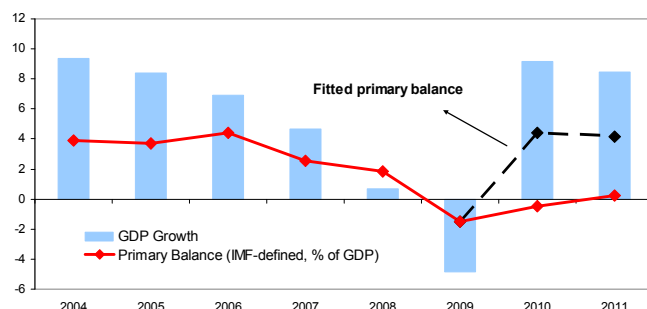
Source: CBT and Citi Research Note: *CBT stopped remunerating TRY RR obligations on September 23, 2010. ** On October 1, 2010 the CBT started to implement a flexible foreign exchange buying auction method.

Did unorthodox monetary policy deliver on its promise?

The case for the unorthodox policy mix was unpersuasive not just because the approach lacked a sound analytical framework, but also because other standard policies (fiscal, prudential and structural) were not fully utilized.

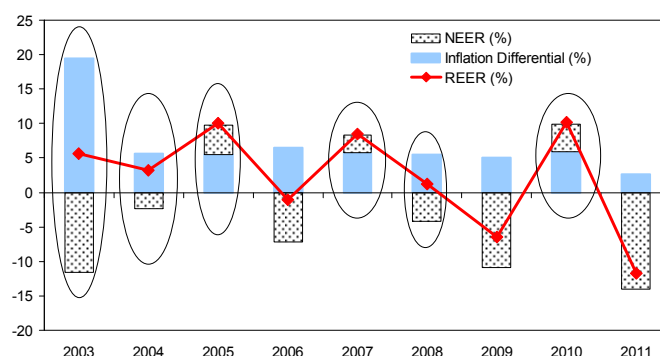
As we argued before, the case for the CBT's unorthodox policy mix was unpersuasive.³ First, the option of a tighter fiscal policy—the standard reaction to the capital inflow problem—was not fully utilized. By contrast, fiscal policy was highly pro-cyclical (Figure 7), which was difficult to reconcile with the strong evidence on overheating, a marked widening in the current account deficit and a revival of short-term capital inflows.

Figure 7. Economic Growth and Fiscal Stance



Source: Treasury, Haver and Citi Research. Note: The Fitted primary balance as a % of GDP (PB) is based on a simple regression analysis linking PB with GDP growth.

Figure 8. Drivers of Real Exchange Rate Appreciation Episodes



Source: BIS and Citi Research Note: + represents REER appreciation

It is difficult to reconcile the nature of Turkey's RER appreciation episodes with the CBT's efforts to promote a weaker currency under the umbrella of its unorthodox strategy.

Second, in the face of the wide current account gap and signs of RER overvaluation, promoting a weaker exchange rate was one of the key components of the CBT's strategy. Nonetheless, the CBT's focus appeared misplaced since Turkey's excessive real appreciation episodes tend to stem mainly from persistent inflation differentials in lieu of nominal appreciation of the lira (Figure 8). Moreover, there is strong evidence suggesting that: (i) *imports are more sensitive to growth than to the real exchange rate*; and (ii) *Turkey's exports have relatively low price elasticity*.⁴ Against this backdrop, we believe the CBT's efforts should have focused on containing domestic demand and reducing inflation instead of promoting a weaker currency under the umbrella of its unorthodox approach.⁵

Any monopolist can only control either price or quantity, not both. The CBT was no exception in this respect.

Third, the CBT was reluctant to lower its liquidity support and pursue a more aggressive sterilization policy, which led to excessive base money growth. The liquidity mopped up through higher RRR was being replaced by higher OMO funding since failure to do so would exert upward pressures on rates, which would be inconsistent with the CBT's unconventional strategy (Figure 9). Consequently, while the CBT was able to create a banking system that was more dependent on the Central Bank, it failed to tighten liquidity.

³ See, for instance, "Time to Rethink Unorthodoxy?" 3 May, 2011.

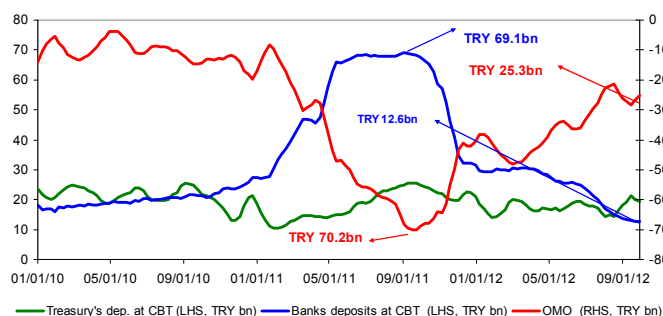
⁴ See, for instance, "Narrowing C/A deficit will take much more than just a weaker lira", 29 November, 2011.

⁵ In an attempt to contain the appreciation of the lira, the CBT also carried out rule-based FX purchase auctions through which it bought US\$ 6.4bn between January 2011-July 2011 (Figure 14). However, a recent study by Garcia (2012) entitled "Can sterilized FX purchases under inflation targeting be expansionary?" (Working Paper, Pontificia Universidade Catolica) argues that sterilized FX purchases under IT are likely to be ineffective in containing the expansionary effects of capital inflows. While the noted study focuses on Brazil, based on its findings, the paper offers a critical assessment of the Turkish experience (page 27).

RRR hikes turned out to be ineffective in the face of: (i) the rapid base money growth; (ii) the mark shift of commercial bank portfolios from loans to government securities; and (iii) the low policy rate, which made the CBT's threshold argument fairly irrelevant.

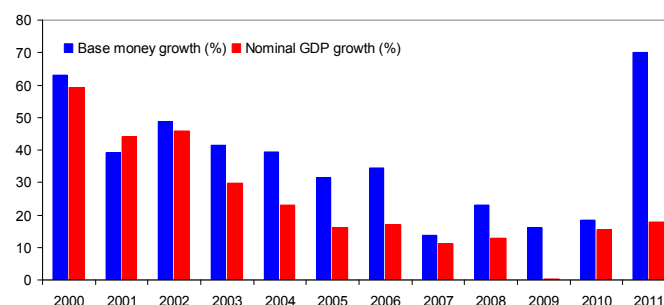
Fourth, RRR hikes turned out to be ineffective in containing loan growth until the emergence of stress in international financial markets and the BRSA measure on general purpose loans was introduced. This was due partly to a relatively high base money growth—a situation in which depositors would be more likely to pay the reserve tax (Figure 10). Moreover, the CBT's threshold argument turned out to be fairly irrelevant since the necessary rise in RRR to reach such a threshold envisioned by the CBT would be very high given the low level of the prevailing policy rate with respect to the cost of other funding alternatives. Finally, low interest rates and banks' decision to re-allocate their assets in favor of loans away from government securities undermined the potency of RRR hikes (Figures 11 and 12).

Figure 9. Key Liquidity Drivers (TRY bn)



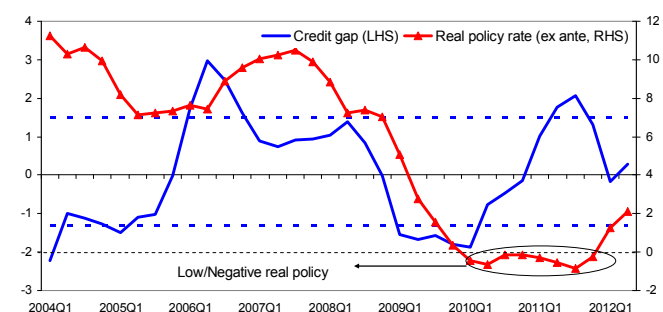
Source: CBT and Citi Research

Figure 10. Base Money Growth vs. Nominal GDP Growth⁶



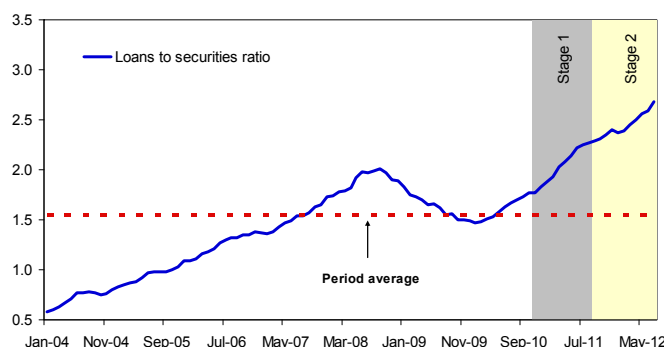
Source: Haver, CBT and Citi Research

Figure 11. Credit Gap* and the Real Policy Rate



Source: Haver and Citi Research *Defined as the deviation of the credit-to-GDP ratio from its trend (see BIS WP No: 355, November 2011, for more on this).

Figure 12. Loans to Securities Ratio



Source: BRSA and Citi Research

Evidence suggests that the CBT's low interest rate policy contributed to rapid credit growth, thereby further complicating the situation.

Fifth, we believe that there was no ground to assert that interest-rate policy would be irrelevant in containing excessive credit growth on the basis that the elasticity of demand for credit to interest rates in Turkey is low. When there are strong signs of overheating and rapid credit growth, we believe that central banks should try to contain the excessive use of leverage and of maturity transformation in the financial sector. This is because even modest changes in short-term rates can have an important impact on firms' incentives to seek high degrees of leverage or excessively short-term sources of funding. In fact, given the ineffectiveness of RRR hikes due to the reasons discussed above, there is evidence suggesting that the CBT's low interest rate policy contributed to rapid growth credit growth (Figure 11).

⁶ It is true that the CBT's RRR hikes played an important role in affecting base money growth, while also leading to a sharp decline in the money multiplier—a development that would contain broad money growth. However, assessing the evolution of M1 and M2 in the context of Turkey's nominal production potential shows that there was definitely excess liquidity in the system in 2011.

The rationale behind the CBT's increased emphasis on financial stability and its incorporation into monetary policy were questionable, as we believe there were better tools available for promoting financial stability.

Sixth, the CBT's increased emphasis on financial stability, which was one of the key underpinnings of its unorthodox strategy, required further analytical elaboration. It is true that the interplay between financial and monetary stability has received considerable attention in the aftermath of the global financial crisis. However, the optimal combination of instruments designed to achieve these twin goals of policy simultaneously remains a relatively under-explored area of research. More importantly, the expansion of the objectives of monetary policy to include financial stability still remains a controversial issue among practitioners and academics.⁷ As was pointed out by Bernanke (2011), monetary policy is too blunt a tool to be routinely used to address possible financial imbalances.⁸ With this backdrop in mind, we would like to highlight the following points:

- For central banks to be able systematically to preempt financial instability, they need to have the capacity to forecast it, and then formulate a policy response to their forecast, which is quantitatively appropriate. Admittedly, this would be difficult in practice to say the least.
- Even if one assumes that central banks have the capacity to predict financial instability, a pre-emptive use of monetary policy to this end would entail the adoption of a more complicated policy agenda. While such an agenda may look attractive in the abstract, it carries with it the practical danger of monetary policy becoming committed to overambitious goals. In addition, a very activist approach to financial stability could end up contributing to the volatility of economic variables.
- Transparency is an important feature of any monetary framework whose overriding objective is price stability. The modification of the policy regime itself by including the preemption of financial instability among its goals would raise contentious issues in this regard through making it harder for the public to understand/monitor monetary policy, which would, in turn, complicate private agents' own economic decisions.
- Moreover, there are better tools available for promoting financial stability. In accordance with the so called the Tinbergen principle, it is best to assign only one goal to each available policy instrument.⁹ From this angle, monetary policy is probably not the right tool to use to ensure financial stability, which should instead be the task of supervisory policy and/or macro-prudential policy.

By mid-2011, it looked like the CBT's controlled depreciation experiment was getting out of hand, as excessively low interest rates and lax liquidity conditions began to bite...

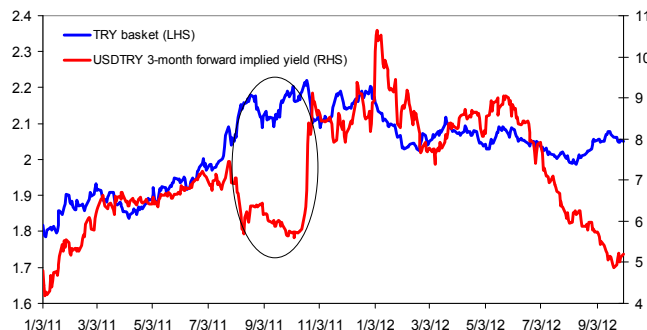
In view of the above-noted shortcomings, it was no surprise that, by mid-2011, it looked like the CBT's controlled depreciation experiment was getting out of hand. Excessively low interest rates (Figure 13) and lax TRY liquidity conditions began to bite. In response to this development, the CBT scaled back its daily FX purchase auctions from USD 50mn to USD 40mn in May and to USD 30mn in June. The Bank decided to halt its FX purchase auctions in July and introduced FX sale auctions in early-August (Figure 14).

⁷ See, for instance, Lars Svensson (2011), "Monetary Policy after the Crisis," Speech at the Federal Reserve Bank of San Francisco, November 29, 2011.

⁸ Ben Bernanke (2011), "The Effects of the Great Recession on Central Bank Doctrine and Practice", Federal Reserve Bank of Boston 56th Economic Conference, Boston, Massachusetts.

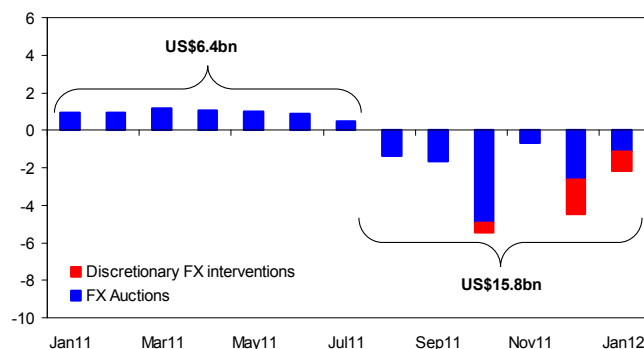
⁹ We discuss this issue regarding instruments in a greater detail later in this note.

Figure 13. Interest Rates and the Currency



Source: Bloomberg and Citi Research

Figure 14. Discretionary and Rule-based FX Interventions (US\$ bn)



Source: CBT Note: + and - signs represent FX purchases and sales, respectively.

Unconventional Policy: Stage 2 (late Oct 11-present)

...leading the CBT to modify its framework and carry out one of the most aggressive policy rate hikes—albeit in disguise—in recent history

After the revisions, the CBT's framework (stage 2) has become tantamount to a soft peg

By October 2011, it seemed the CBT realized that the depreciation of the lira was going out of control and that selling FX alone was not effective in propping up the currency. Against this backdrop and the deterioration in inflation expectations, the Bank, out of choice, was forced to revise its framework (Figure 15). Specifically, the CBT's priority shifted to containing excessive currency depreciation, which was beginning to undermine stability, while also complicating inflation dynamics. To this end, the CBT broadened the interest rate corridor by raising the o/n lending rate to 12.5% (from 9%) and reduced the amount of liquidity provided through one-week repo auctions at the policy rate (5.75%). Concurrently, the CBT engaged in large FX selling auctions and discretionary interventions (Figure 14), while also increasing the portion of TRY liabilities that can be kept in FX (Figure 15).¹⁰

Under the revised framework, the CBT has started to provide liquidity through three main channels: (i) one-week repo (at the policy rate of 5.75%); (ii) one-week repo auctions; and (iii) one-month repo auctions. Depending on the performance of the lira, the CBT has started to determine the mixture of its funding on a daily basis.¹¹ A quick glance at Figures 16 and 17 and our earlier analysis confirm this conjecture that the CBT's framework has become tantamount to a soft peg.¹² There is evidence suggesting that the CBT is more tolerant to FX volatility when the lira basket is below 2.07 (Figure 17).

¹⁰ The CBT also allowed banks to keep certain portion of their TRY required reserve obligations in gold as well.

¹¹ Specifically, the CBT introduced normal and exceptional days distinction. During exceptional days when the lira was under pressure, the CBT didn't provide liquidity at 5.75% and tightened liquidity.

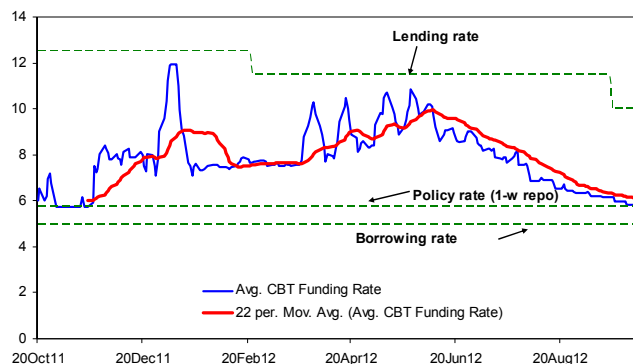
¹² See, for instance, "Deciphering the CBT's monetary policy", March 21, 2012 and "When does the 'CBT put' on the lira kick in?", April 10, 2012.

Figure 15. Key Monetary Policy Actions (October 2011-Present)

	<i>Interest Rate</i>	<i>Policy Actions</i>	
		<i>RRR</i>	<i>FX</i>
		-Cut RRR for TRY deposits (12.5% for 3-m) -Cut RRR for FX deposits (to 11% for all maturities up to 1-y and to 9% for 1-y+) - Up to 20% of TRY liabilities can be held in FX - Up to 10% of TRY liabilities can be held in gold -In addition, the Bank decided the following at month end: - Cut RRR for ST deposits (11% for up to 3m, 8% fo 6m) - Up to 40% of TRY liabilities can be held in FX	On October 5, CBT stated that it may open high-volume FX selling auctions - CBT intervened in FX market by selling US\$0.5bn
Oct-11	- Widen the interest rate corridor by increasing the lending rate to 12.5% from 9%.		
Nov-11			- CBT started announcing total maximum FX amount that could be sold for the next two working days
Dec-11	On Dec 29, the CBT started to deliver additional monetary tightening via open market operations during "exceptional days".		-Ordinary day FX selling auctions is set \$50mn - CBT intervened in FX market by selling \$1.9bn
Jan-12			- CBT intervened in FX market 3 times by selling \$1.1bn - CBT halted regular daily FX selling auctions on Jan 24
Feb-12	Upper band of corridor lowered to 11.5% from 12.5% (Corridor: 5%-11.5%)		
Mar-12		- Up to 20% of TRY liabilities can be held in gold	
Apr-12			
May-12		- Up to 45% of TRY liabilities can be held in FX, with ROC for 40-45% set at 1.4 - Up to 50% of TRY liabilities can be held in FX, with ROC for 45-50% set at 1.7 - Up to 25% of TRY liabilities can be held in gold, with ROC for 20-25% set at 1.5	
Jun-12			
Jul-12		- Up to 55% of TRY liabilities can be held in FX, with ROC for 50-55% set at 1.9 - Up to 60% of TRY liabilities can be held in FX, with ROC for 55-60% set at 2 and 0-40% set at 1.1 - Up to 30% of TRY liabilities can be held in gold, with ROC for 25-30% set at 2	
Aug-12			
Sep-12	Upper band of corridor reduced to 10% from 11.5% (Corridor: 5%-10%)	- FX ROCs are increased by 0.2 points for all tranches.	

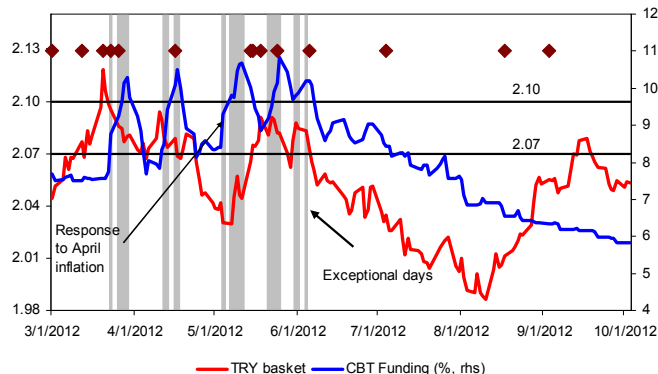
Source: CBT and Citi Research. Note: * ROC: Reserves option coefficient (see also Figure 22)

Figure 16. Evolution of the CBT's Effective Funding Rate



Source: CBT and Citi Research

Figure 17. Lira Movements and the CBT's Effective Funding Rate



Source: Bloomberg, CBT and Citi Research. Note: Shaded areas represent exceptional days, while diamonds show daily FX volatility above 1.5 std.

Will the revised unorthodox strategy work?

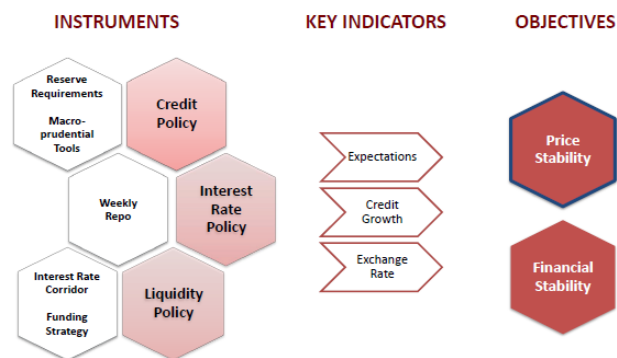
The majority of the CBT's alleged instruments cannot be considered independent, which, in the presence of the Bank's multiple goals, violates the *Tinbergen principle*.

Since nobody knows the true and extremely complex structure of the economy, it seems hard to justify the CBT's excessive discretion and ad hoc actions in the conduct of monetary policy.

In our view, the CBT's revised framework still remains subject to a number of shortcomings. First, strictly speaking, the majority of the CBT's alleged instruments—such as RRR, the interest rate corridor, funding strategy (Figure 18)—cannot be considered independent. For instance, when the CBT changes RRR, which is a tool not an instrument, it affects base money (Figure 19). Consequently, we argue that the CBT's approach violates the Tinbergen rule.¹³

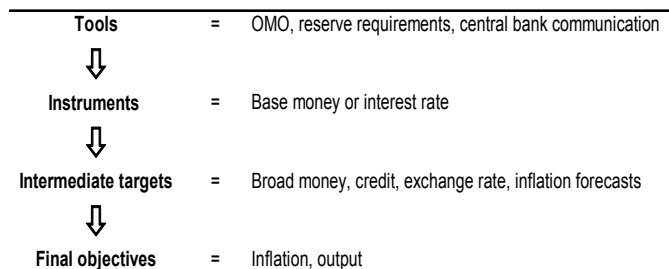
Second, it is difficult to justify the CBT's excessive discretion, which has involved frequent changes in various tools (see Figures 15 and 18), in the absence of a stable quantifiable relationship linking these tools with policy objectives. Since nobody knows the true and extremely complex structure of the economy—including the CBT—excessive discretion in the conduct monetary policy is in our view, likely to be counterproductive, overshadowing transparency, accountability and credibility.

Figure 18. CBT's Monetary Policy Framework



Source: CBT. How did the crisis challenge the Central Banking as we knew it? What Should (not) change?, presentation by Erdem Basci (June 2012).

Figure 19. Monetary Policy in Practice



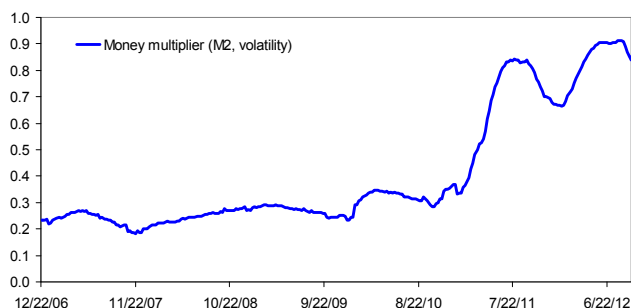
Source: Citi Research

¹³The "Tinbergen rule" posits that it is best to assign only one goal to each available policy instrument.

The unconventional strategy has produced excessive volatility in the money multiplier and interest rates

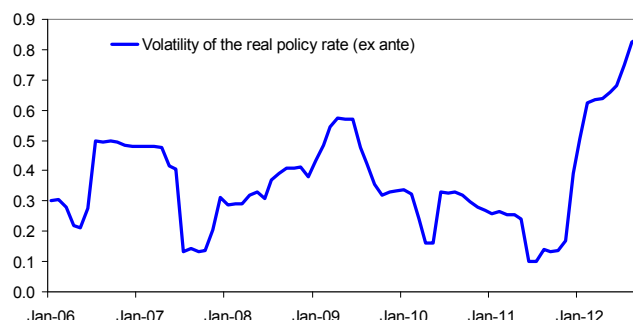
Third, the CBT's interest rate corridor approach and frequent changes in RRRs—including those involving the portion of TRY required reserve obligations that can be kept in FX—have produced excessive volatility in the money multiplier and interest rate. Such volatility induced by the CBT's unorthodox approach is not desirable for obvious reasons (Figures 20 and 21).¹⁴

Figure 20. Money Multiplier Volatility



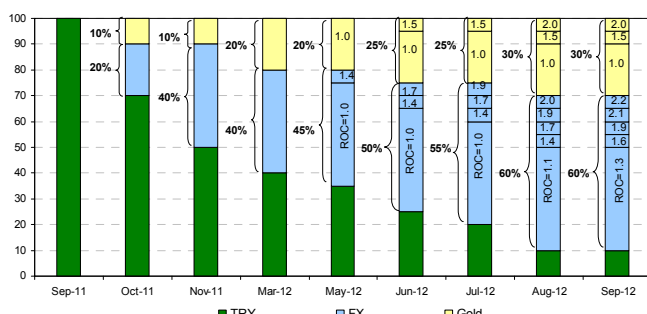
Source: CBT and Citi Research. Note: 52-week rolling standard deviation.

Figure 21. Volatility of the Real Policy Rate



Source: CBT, Bloomberg and Citi Research. Note: Using 12-month ahead inflation expectations. Note: 12-month rolling standard deviation.

Figure 22. Evolution of the CBT's ROC Policy



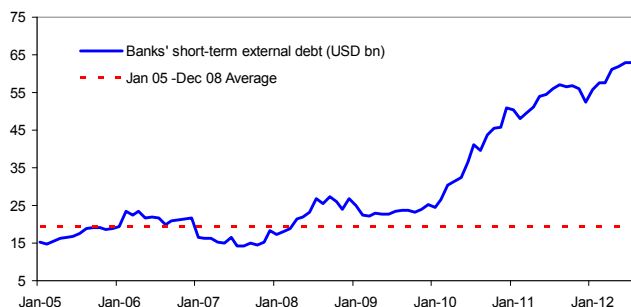
Source: CBT

Figure 23. Net Foreign Assets (from monetary survey, US\$ bn)



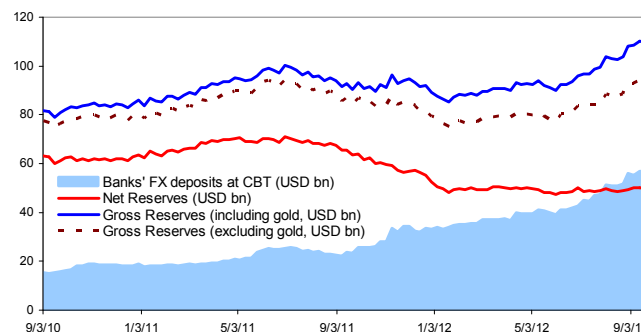
Source: CBT

Figure 24. Banks' Short-term External Debt (US\$ bn)



Source: CBT and Citi Research

Figure 25. Gross vs. Net International Reserves (US\$ bn)



Source: CBT and Citi Research

¹⁴ Interest rate volatility is likely to have real consequences. Money multiplier volatility is likely to complicate not only monetary policy implementation, but also make it more difficult for the private sector to infer monetary policy intentions from inflation outcomes.

We struggle to see the benefits of the CBT's ROC policy...

...as the Bank seems to overlook the distributional consequences of its actions.

While we appreciate the challenges posed by the impossible trinity problem, the superiority of the proposed modifications to monetary policy over flexible inflation targeting is not well established, neither in theory nor in practice.

Regarding the ROC approach, the CBT claims that this mechanism acts as an automatic stabilizer. In the face of a sudden stop in capital inflows, banks could tap their FX reserves parked at the CBT. The converse would be the case in the event of a strong inflow scenario. In our view, bolstering the CBT's international reserves is one the key drivers of this policy. Nonetheless, we fail to see the logic behind this approach on the grounds that FX reserves placed at the CBT through the ROC arrangement are not entirely owned by banks to begin with. In fact, there is evidence suggesting that this arrangement has induced banks to increase their short-term external borrowing against the backdrop of a deterioration in the system's net foreign asset position (Figures 23 and 24). From this angle, we argue that this arrangement also gives a false sense of security, as the CBT's net international reserves have been stuck at about US\$50 billion for a while despite the marked rise in gross international reserves led by the sharp increase in banks' FX deposits at the CBT (Figure 25)—a phenomenon driven partly by higher short-term external borrowing.

Fourth, the CBT's current framework has had distributional implications—an issue that has been largely overlooked by the CBT. For instance, the interest corridor approach tends to penalize large banks, as the amount of funding provided at the policy rate of 5.75% constitutes a small portion of their balance sheets when compared with small-medium sized banks.¹⁵ Concurrently, allowing banks to keep a certain portion of RR obligations on TRY liabilities in FX is more advantageous for banks with higher FX liquidity.

Where are we now? Where are we heading?

We do appreciate the constrained environment that the CBT faces in the conduct of monetary policy. As is the case with other emerging economies with open capital accounts, keeping inflation close to the target, while endeavoring to deter short-term capital inflows, is a challenging task—the so called *impossible trinity problem*. We also recognize the presence of recent policy discussions making a case for a broader set of objectives for monetary policy in addition to price stability.¹⁶ Nonetheless, the debate is by no means settled, as this view is vigorously challenged by practitioners and academics (See, for instance, Woodford (2012) and De Gregorio (2010)).¹⁷

With this backdrop in mind, our findings and the evidence to date fail to provide a complimentary picture of the CBT's unconventional approach. Specifically, our analysis yields two main conclusions:

- *First*, we posit that the case for the CBT's unorthodox strategy was, at best, weak. Despite the obvious signs of overheating and a revival of capital inflows, there is strong evidence suggesting that fiscal policy—from the standpoint of business cycle management—prudential¹⁸ and structural measures were not fully utilized. Our findings suggest that the CBT's arguments for an unorthodox strategy were unpersuasive.

¹⁵ Needless to say, this issue is more pertinent during periods when the CBT tightens liquidity to prop up the lira.

¹⁶ Blanchard et al (2010) "Rethinking Macroeconomic Policy", Journal of Money, Credit and Banking, Vol. 42 and Ostry et al (2012), "Two Targets, Two Instruments: Monetary and Exchange Rate Policies in Emerging Market Economies", IMF Staff Discussion Note.

¹⁷ Jose De Gregorio "Monetary Policy and Financial Stability: An Emerging Markets Perspective", International Finance, 2010 pp. 141-156. Also, a recent paper by Michael Woodford entitled "Inflation Targeting and Financial Stability" argues that flexible inflation targeting has served us well (NBER ilker Working Paper No: 17967, April 2012).

¹⁸ The BRSA's measures, which included imposing loan-to-value ceilings on loans and increasing provisioning requirements, etc, were introduced with a long delay in June, 2011.

■ *Second*, against this backdrop, we believe that monetary policy undertook responsibilities for which it was not well-equipped. Our analysis and the evidence to date cast doubts on the consistency and the effectiveness of the CBT's approach. We believe that excessive discretion, over-response to short-term events, while underestimating long-term consequences of its policy actions, and assuming responsibilities beyond the control of the Central Bank, mean that the CBT's current approach, which runs the risk of overshadowing credibility, is unlikely to restore price stability and provide a solid anchor for inflation expectations.

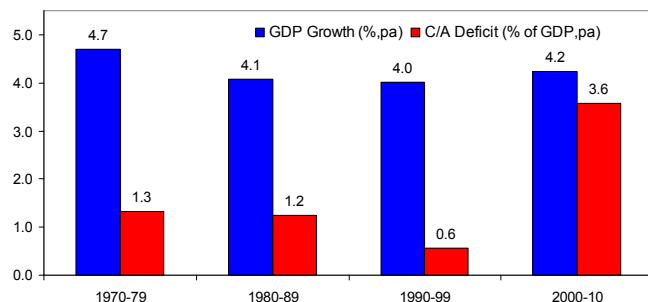
In our view, the recent optimism towards the CBT's unorthodox strategy can be challenged on at least three grounds.

Concerning the rebalancing process, it is worth noting that: (i) without creating a supply response, macroeconomic policies alone wouldn't be effective in bringing the C/A gap closer to its norm; and (ii) it would be an overstretch to attribute the recent rebalancing of the economy to the CBT's framework.

It is true that even those who were critical of the CBT's unconventional policies—following the sharp depreciation of the currency and the apparent ineffectiveness of the approach in delivering price/financial stability—seem to have recently become more receptive towards the Bank's unorthodox approach. This change of heart is not surprising in light of recent developments, including the encouraging signs on the rebalancing process, the lira's good performance and lower-than-expected inflation readings in the past few months. However, we argue that the recent optimism can be challenged on at least three grounds.

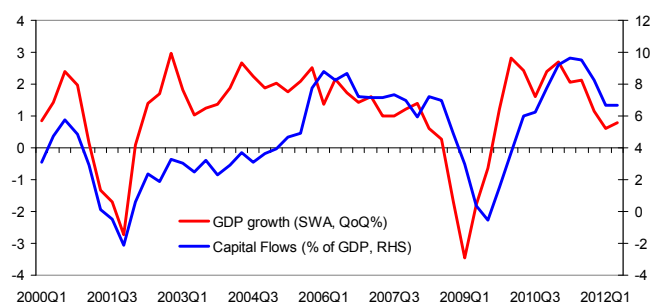
First, a quick glance at Figure 26 demonstrates the structural nature of the challenges associated with the re-balancing process and bringing Turkey's current account deficit to a more sustainable level. Looking through this prism, the authorities' policy reaction led by the CBT's unconventional strategy looks unlikely to be sufficient. Without creating a supply response, which would require implementation of structural reforms aimed at bolstering productivity, bringing the current account deficit closer to its norm (for which the estimates range between 2.5% and 5% of GDP) would necessitate engineering an undesirable compression in domestic demand. Narrowing the current account gap by keeping growth well below its potential is clearly not a desirable outcome. Consequently, keeping the current account deficit close to its norm, while growing at around 4%-5%, should be the policy objective, in our view. In this context we argue that it would be an overstretch to attribute the rebalancing of the economy to the CBT's framework, as the evidence suggests that softer domestic demand is more likely to be associated with the drop in capital inflows (Figure 27).

Figure 26. Current Account and GDP Growth



Source: Haver and Citi Research

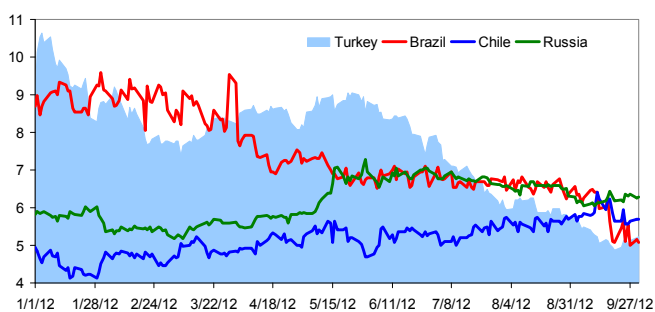
Figure 27. Capital Flows and GDP Growth



Source: Haver and Citi Research Note: Capital flows (% of GDP) and 4-quarter moving QoQ GDP growth (SWA).

Second, the favorable performance of the currency in 1H can be attributed to the marked rise in interest rates and the CBT put on the lira. The lira's good performance should be assessed in the context of the marked tightening that the CBT was forced to carry out in response to the sharp currency weakening. In our view, Figure 28 is illustrative in demonstrating the impact of the CBT's stance on the performance of the lira. The marked deterioration in the lira's relative performance in 2H is largely associated with the CBT's decision to ease its stance. As we argued above, the CBT's revised framework is akin to a soft peg—a regime which has simply not proved viable over time, especially for countries integrated into international capital markets.¹⁹ Moreover, an active interest rate defence of a currency is not a free lunch, as higher rates tend to lead to a credit crunch and output contraction.²⁰ From this angle, rising growth concerns may lead the CBT to maintain its dovish stance longer than can be justified by the macro backdrop, as the Bank continues to juggle mutually incompatible goals.

Figure 29. Evolution of 3-month FX Implied Yields (%)

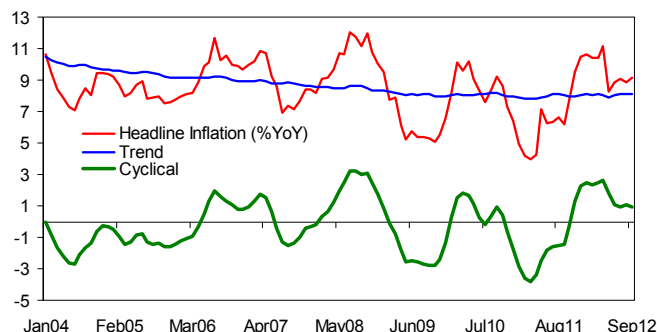


Source: Bloomberg

Third, despite the recent lower-than-expected inflation readings, we see no evidence to suggest that there has been a permanent improvement in Turkey's inflation dynamics. The evidence suggests that headline inflation continues to be driven by cyclical factors (such as the exchange rate, food and oil prices). Even under more optimistic assumptions, inflation is set to be considerably above the 5% target this year. Moreover, the absence of a meaningful decline in the contribution of the trend component to inflation (only about 0.5% per year) is an important feature of Turkey's inflation dynamics (Figure 30).²¹ Holding everything else constant, this finding suggests that it would take about 5 years for Turkey's underlying inflation to reach the CBT's medium-term target inflation rate of 5% (Figure 31).

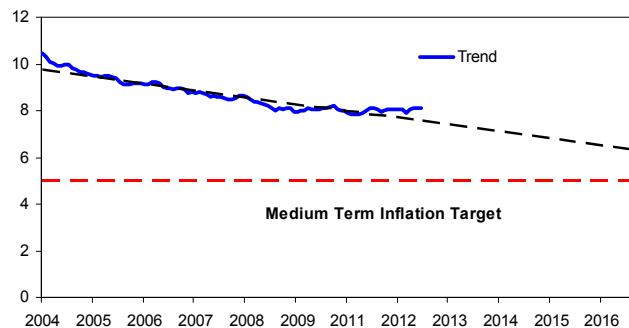
²¹ See *Inflation Remains Hostage to Cyclical Factors*, 10 August 2010, for more on this.

Figure 30. Contributions to Inflation (%YoY)



Source: Haver and Citi Research

Figure 31. Long-term Inflation Outlook (%)

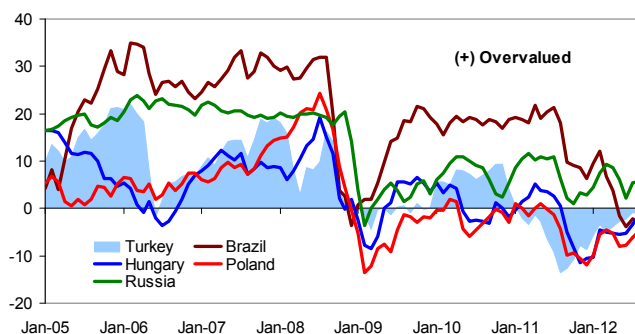


Source: Haver and Citi Research

Since it is no longer obvious that the lira is undervalued, propping up the currency under the CBT's current framework—if needed—will be more challenging than before.

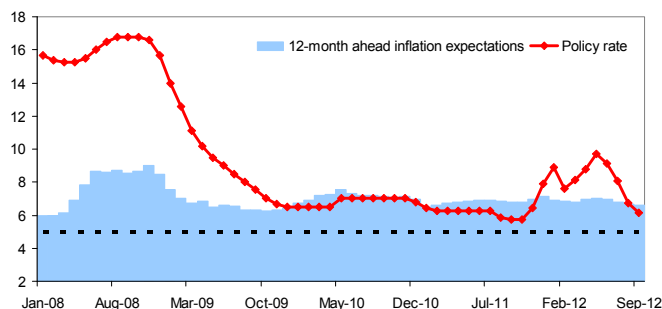
In light of our analysis summarized above and the evolution of the REER, we believe that it will be increasingly difficult for the CBT to maintain its current framework. As can be seen from Figure 32, Turkey's REER has recovered considerably after a sharp depreciation. This will, in turn, make it harder for the CBT to defend the currency if needed, as the lira doesn't seem to be undervalued as much as before. In parallel, a recent study, which presents the Fundamental Equilibrium Exchange Rate calculations for a number of countries through April 2012, shows that the lira is the most overvalued currency.²² Moreover, there are concerns about the appropriateness of the current policy stance in the context of sticky inflation expectations, which remain above the 5% medium-term target (Figure 33).

Figure 32. Deviation of REER from Its 5-year Moving Average (%)



Source: BIS and Citi Research

Figure 33. The Policy Rate and Inflation Expectations



Source: CBT and Citi Research

Postponing monetary policy normalization is likely to require an even sharper response later—a painful lesson learned during the first phase of the CBT's unorthodox approach.

Consequently, we believe that the CBT's unconventional approach is likely to come under increasing strain going forward in the absence of brisk capital inflows. Delaying monetary policy normalization, which would entail removing the interest rate corridor and raising the single policy rate in the spirit of the flexible inflation targeting regime, may require an even sharper response that could create further complications through hurting banks owing to their maturity mismatches, among other things—a painful lesson learned during the first phase of the CBT's unorthodox approach.

²² Cline and Williamson (2012), "Estimates of Fundamental Equilibrium Exchange Rates", Peterson Institute for International Economics, May 2012.

Bottom line: It is about credibility, clarity and consistency

Missing inflation targets should not be detrimental if the overall perception is that the Central Bank is pursuing good monetary policy.

A quick glance at Figure 34 shows that the CBT has frequently overshoot its inflation target since the inception of the explicit inflation targeting regime in 2006. The emerging picture becomes more worrisome if one considers that Turkey has a higher point target and a wider tolerance band than its peers in the EM universe (Figure 35). This, in turn, begs the following question: *Should we worry about the CBT's failure to meet its targets?* In our view, as a single factor, failing to meet an inflation target is not likely to undermine the credibility of a central bank provided that it can put forward solid and convincing reasons for that outcome. After all, financial markets want good monetary policy, and just not blind adherence to a rule. However, it needs to be clear that the central bank has pursued sound monetary policy and that poor judgment was not the reason for missing the target. A central bank's ability to achieve this outcome will require consistency, clarity, and good communication.

Figure 34. CBT: Inflation Target vs. Outcomes

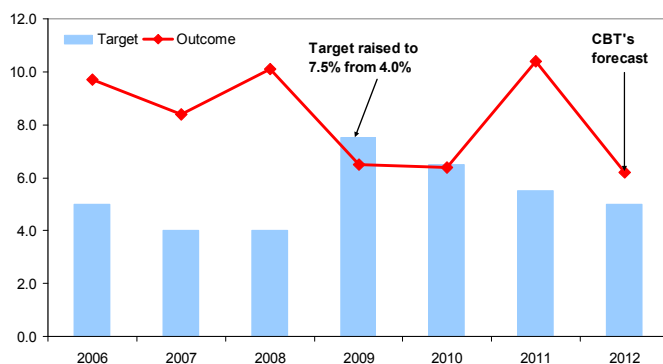
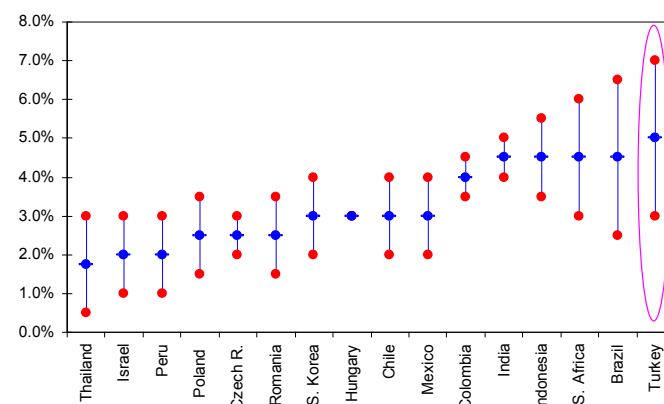


Figure 35. Inflation Target: Turkey vs. Selected EMs



Source: CBT and Citi Research Note: We use the CBT's most recent forecast for 2012 Source: Central bank website and Citi Research

The CBT's unconventional approach, however, falls short of providing solid and convincing reasons for overshooting the target, as forward looking inflation expectations seem to have settled in a higher plateau, well above the 5% target.

In our view, the CBT's current unorthodox strategy, which suffers from excessive discretion and ad hoc actions, falls short of providing solid and convincing reasons for overshooting the target. From this angle, one can shed some light on the credibility of monetary policy in the inflation process by considering a basic Phillips curve inflation equation (Figure 36). The empirical results suggest that while there has been some improvement in the aggregate inflation persistence in Turkey (Figure 37), the relative importance of the CBT's targets in the formation of inflation expectations has been declining (Figure 38). In fact, the results show that inflation targets have become statistically insignificant since March-2011 (Figure 38). In addition, the marked increase in the importance of the constant in the equation, which became statistically significant since mid-2009, creates an additional challenge to the CBT in terms of its efforts to move expectations closer to the target (Figure 39). This finding is consistent with the CBT's survey results, which show that forward looking inflation expectations have settled in a higher plateau—well above the 5% target—thereby making it harder for the CBT to attain its overriding goal of price stability.²³

²³ Based on our estimation results ($\pi_t^e = 6.02 + 0.08\pi_{t-1} + 0.04\pi_t$), the implied equilibrium inflation rate that satisfies the condition of $\pi_t^e = \pi_{t-1} = \pi_t$ is around 6.9%.

Figure 36. Basic Phillips Curve Equation²⁴

To shed some light on the question of whether or not there has been an improvement in the aggregate inflation persistence in Turkey, we consider a basic Phillips curve inflation equation where expectations are a mixture of backward and forward expectations, where the forward component is the inflation target ($\bar{\pi}$):

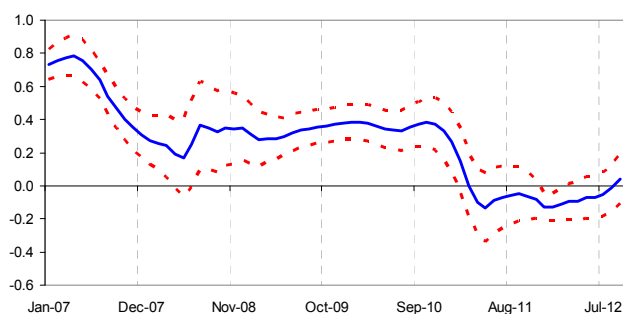
$$\pi_t = \pi_t^e + b(y_t - y_t^*) + \varepsilon_t \quad (1)$$

$$\pi_t^e = a\pi_{t-1} + (1-a)\bar{\pi} \quad (2)$$

where π_t^e , π_{t-1} , and $(y_t - y_t^*)$ stand for inflation expectations, actual inflation lagged by one month, and output gap, respectively. The persistence of the inflation process is captured by the parameter "a", which is the backward-looking term in the equation for inflation expectations. A rise in the credibility of a central bank would increase the weight on the inflation target, which would amount to a decline in "a" and observed inflation persistence. In the case of perfect credibility of the inflation target (that is a=0), there would be no persistence in the univariate inflation process (except to the degree that the output gap term is autocorrelated).

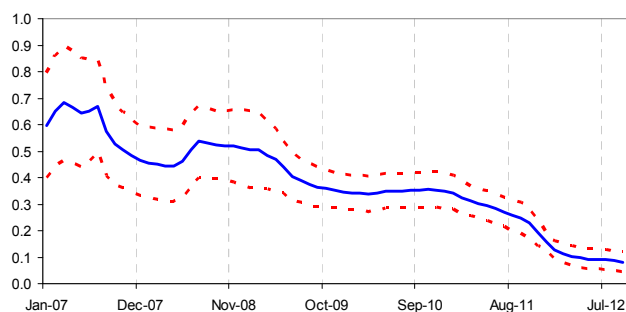
Source: Citi Research

Figure 38. Rolling Regression Coefficient: Inflation Target



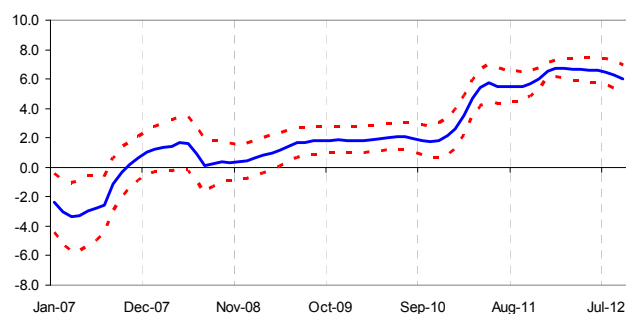
Source: Citi Research. Note: Dotted red lines represent ± 2 S. E.

Figure 37. Rolling Regression Coefficient: Actual Inflation (t-1)



Source: Citi Research. Note: Dotted red lines represent ± 2 S. E.

Figure 39. Rolling Regression Coefficient: Constant



Source: Citi Research. Note: Dotted red lines represent ± 2 S. E.

Looking at the price level since 2005 suggests that there has indeed been a cost of missing inflation targets

The cumulative increase in the price level since 2005 has been 81.3%. Had the CBT met its targets since 2005, the price level would be about 48.0% higher today.

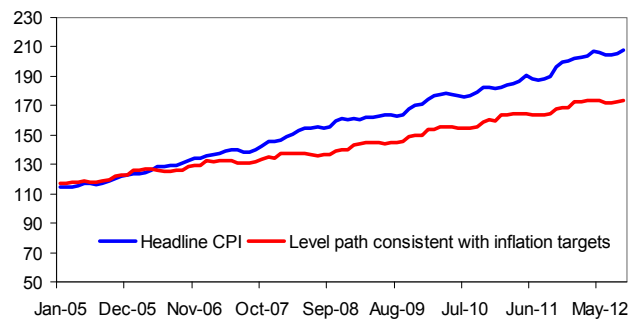
Last but not least, forecasters and analysts tend to focus on monthly inflation data and whether or not the CBT is hitting its inflation target that month. They often neglect the big issue: *What is happening to the price level?* Looking at the price level is important because even for an economy with a credible inflation-targeting central bank, which is aiming to meet its inflation target, the price level can wander away permanently from a trend path consistent with the inflation target. This is because for inflation-targeting central banks, bygones are bygones.

What is the CBT's price level record since 2005? Figure 40 presents the level of headline CPI and the path that is consistent with inflation targets. Since the begining of 2005, the cumulative increase in the price level has been 82.3%. Had the CBT met its targets since 2005, the price level would be about 52.2% higher today, not 81.3%. Consequently, there has indeed been a cost of missing inflation targets. Given the adverse consequences of inflation for competitiveness and growth, the CBT's relatively high tolerance to overshooting its targets is hard to justify, as the Bank remains under pressure to hike rates (Figure 41).

²⁴ In the spirit of equation (2), we estimate $\pi_t^e = \alpha + \beta_1 \pi_{t-1} + \beta_2 \bar{\pi}_t + u_t$ for the period

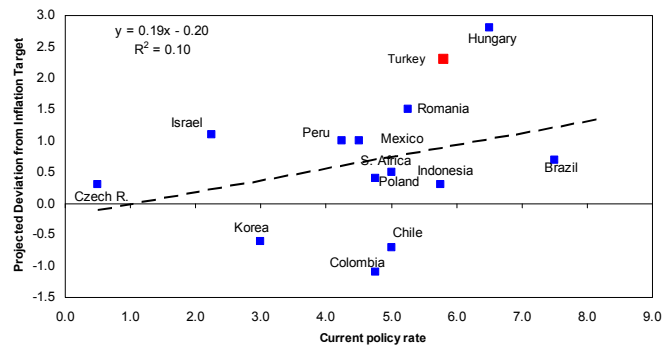
between January 2005 and September 2012 (using rolling regression, 36-month window). $\bar{\pi}_t$ represents the CBT's interpolated inflation target. We then focus on the coefficients of recursive regressions of the 12-month ahead inflation expectations (obtained from the CBT expectations surveys) on the lagged inflation and the target.

Figure 40. Evolution of the CPI Level



Source: CBT and Citi Research

Figure 41. Pressure to Hike: Turkey vs. Selected EMs



Source: Haver and Citi Research

Appendix A-1

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