

Modernizing the monetary policy framework in Tanzania

Stephen A. O'Connell

IGC-Tanzania / Swarthmore College / Visiting Scholar, IMF*

Presentation at IGC Growth Week

24 September 2013

*Views expressed here are my own, and do not reflect those of the IMF, its management, or allied institutions. I thank Governor Ndulu, Dr. Joseph Masawe, BoT colleagues, and Luisa Charry for helpful discussions. The presentation draws in part on joint IGC research with Christopher Adam, Pantaleo Kessy, Peter Montiel, Johnson Nyella and Wilfred Mbowe.

Outline

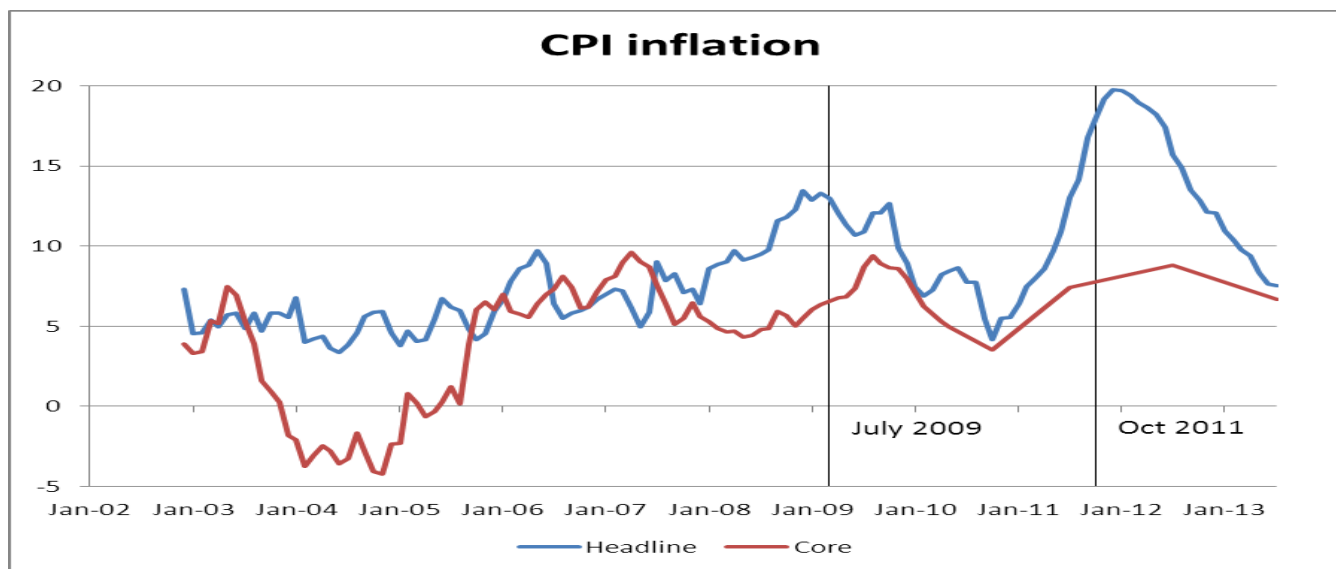
- **Reserve-money programming in context**
 - Flexibility in practice
- **Modernizing reforms are underway**
 - How, and how rapidly, should BoT move to a policy rate system?
- **Making the policy rate meaningful**
 - As an operational target, as a summary of policy stance
- **Supporting policy analysis and forecasting**
 - Modeling flexible money targeting
- **Conclusions**

1. Context: Why RM programming?

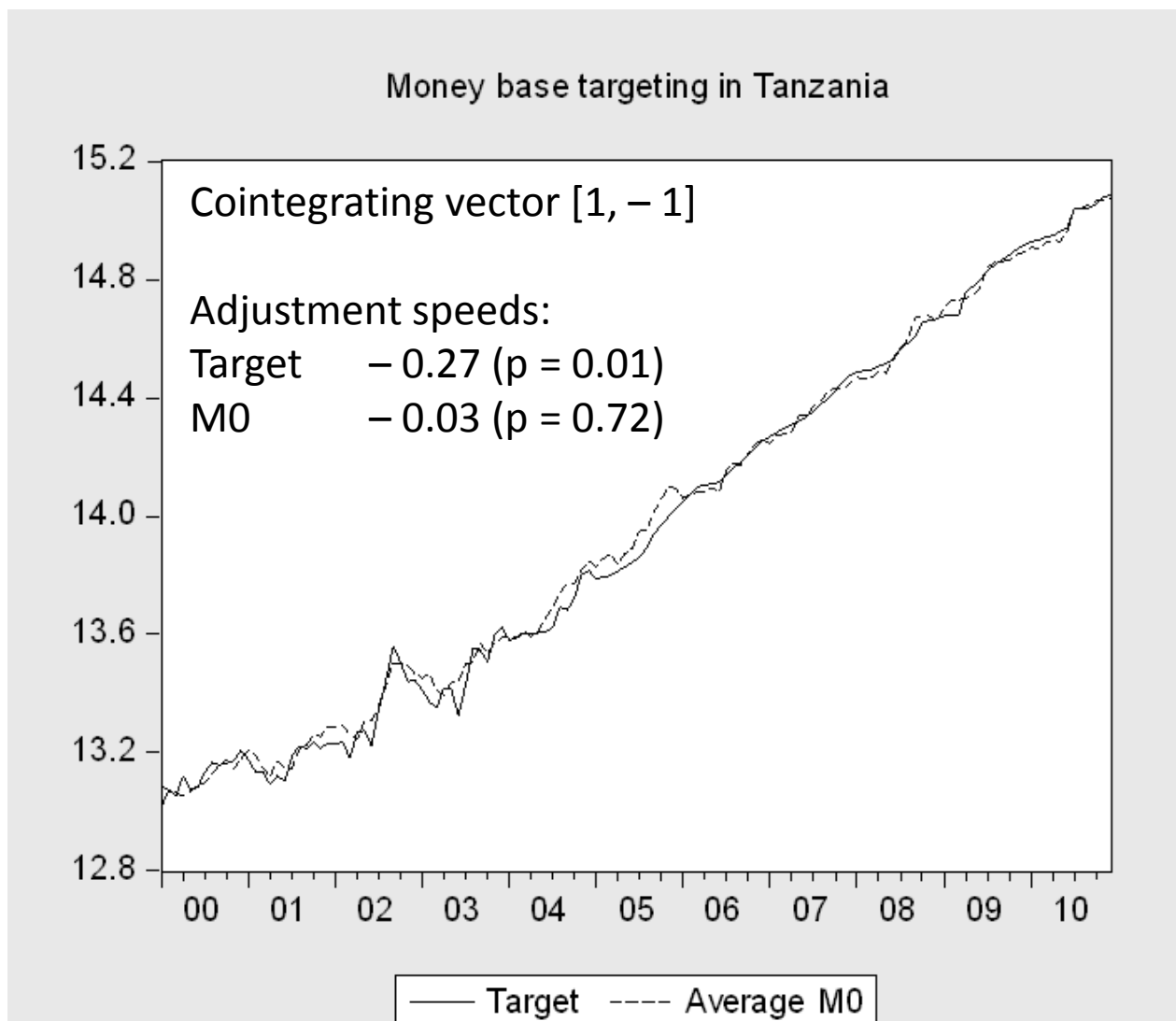
- The IMF an external guarantor of price stability since mid-90s
- Fiscal dominance at bay but government transactions still loom large
- Financial markets developing but banks rely mainly on transactions w/ BoT
- Macroeconomic data are problematic especially on the real economy
- The transmission mechanism is not well established empirically
- **Reserve-money (RM) programs:** consistency exercise embodying simple transmission mechanism and limited discretion.
 - Anchors medium-term inflation well – though with volatility recently.
 - Targets nominal GDP growth → Reasonable SR output (not output gap!) stabilization properties, except w.r.t. portfolio shocks.

➤ Flexibility in practice

- Deviations have been modest [next slide].
- When reserve-money outcomes differ from program targets, **the targets adjust**; in fact, reserve money itself is weakly exogenous in the VECM.
- This is consistent with a policy dialogue that has succeeded in anchoring inflation expectations 'reasonably' well.



➤ Flexibility in practice



2. Modernizing reforms are underway

- Replacing reserve-money ceilings with bands in IMF programs.
 - Increase *de jure* flexibility in the operation of monetary policy.
- Enhancing communication of central bank policy with the public
 - Increase the BoT's leverage over the private sector's expectations,
- Strengthening the BoT's capacity to forecast inflation
 - Empirical basis for adjustments in the stance of monetary policy.
- **Adopting a policy interest rate (the 'bank rate')**
 - Communicate the stance of monetary policy; strengthen the MTM; accommodate portfolio shocks.

➤ How (rapidly) should BoT move?

- “Just do it!”
 - Uganda example of success steering the 7-day repo rate.
 - Accumulating experience in Kenya.
- Counter-arguments
 - Don’t fix what isn’t broken. ‘**Flexible money targeting**’ is the right speed.
 - Don’t jump with eyes closed. Need **coherent description of the new framework**, its likely operating characteristics in TZA, and safeguards.
- Complication: serious model uncertainty
 - MTM not well understood. Pass-through to the lending rate and exchange rate appear very weak. The coordinated tightening ‘worked’ but why have lending rates have not fallen back subsequently (even in KEN and UGA)?
 - Exchange-rate determination not well understood.
- IGC: **analytical coherence on new framework *and* on flexible MT**

3. Making the policy rate meaningful

- Making the policy rate meaningful means **(i) steering a short-term market interest rate** into a close relationship with the policy rate.
 - There are alternative ways of doing this.
 - Central banks are increasingly relying on **corridor systems**, where banks can use standing central bank facilities to borrow (and sometimes deposit) short-term liquidity at penalty rates vis-à-vis the interbank rate.
- Once this is being done, **(ii) the policy rate must become an active instrument** that expresses the BoT's intentions for tightening or loosening.
- The BoT has a policy interest rate (the 'bank rate'), but at the operational level the BoT cannot be described as steering short-term interest rates.

(i) Steering short-term interest rates

- A standing facility that lends at a penalty *over endogenous market rates* **encourages market transactions** and **provides a lender-of-last resort function** (does not steer).
 - [Before 2009] The rediscount rate for 91-day T-bills = 91-day TBR + 5%
 - Lombard rate = $1.5 * \max[\text{IBR}, \text{35-day TBR}, \text{Repo rate}]$, cut to 1.2 early 2009.
- A standing facility that lends at a penalty *over a policy-determined target for the market rate* **defines an asymmetric corridor**.
 - The market rate will tend not to exceed the target by more than the penalty.
 - Can approach symmetry through an interest-bearing deposit facility.
- Strong reasons to steer the short end of the yield curve.
- Strong reasons to support rather than displace market transactions.
 - Manage open market operations to minimize use of standing facilities.

➤ Reforming the operational framework

- The rediscount rate is now being held fixed as the policy rate (now 12%)
 - A standing lending facility available to banks holding 91-day paper.
 - Should keep the market yield below 12% (banks can arbitrage) but it hasn't. Evidence of collusion?
 - Heavy use would discourages development of secondary market; need supporting intervention to keep the market rate below the policy rate.
 - Steering a long maturity can create volatility at shorter maturities (including the interbank market) when the policy rate is expected to change.
- J. Nyella (BoT) proposes maintaining repo rates within a corridor. This direction is more consistent with the logic of a policy rate system.
- Assessing alternative designs: analytic support from 'scenario analysis'
 - How will a given structure respond to LT capital inflows, ST capital outflows, food price shocks, Euro zone collapse, banking sector stress ...?

(ii) Making the policy rate active

- Do we know enough about the transmission mechanism to be activist?
 - Macro time series evidence suggests weak/nonexistent transmission [Montiel *et al.* (IGCWP 2012); Davoodi and Dixit (2012)].
 - LR money demand function (Adam *et al.*, IGCWP 2012), IGCWP) provides medium anchoring but no clear basis for stabilization policy.
 - But: LIC data conditions are very hostile to standard VAR practice (Li, O’Connell *et al.* 2013), and money-targeting systems may be weak in terms of communicating the policy stance.
- Micro evidence suggests weak pass-through to bank lending rates but considerable pass-through to lending quantities (Mbowe 2012a,b)
 - Berg *et al.* (2013) study the October 2011 coordinated tightening, and find a [substantial impact on growth of credit to the private sector](#).
 - Rise in deposit rates consistent with equilibrium credit rationing. **The bank lending channel can operate even w/ weak pass-through to lending rates.**

➤ Addressing policy concerns

- Operational confusion during the transition could undermine credibility
 - But note: the policy rate is an operational target, not an intermediate target; monetary aggregates can be retained in a supportive role.
 - In the 1970s the Fed used operational targets for the Federal Funds rate to pursue intermediate target paths for M2 and other aggregates.
- Many central banks are wary of taking such a clear responsibility for the interest rate, due to fiscal concerns and political pressures.
 - But greater clarity (and smoothing) should increase instrument multiplier and reduce interest rate volatility.
 - Communication/accord with fiscal authorities may be key.
- **Are safeguards needed? Open research questions**
 - Can zero bound be avoided when instrument multipliers are small?
 - Is forex intervention needed under currency substitution (Buffie *et al.* 2013)?

➤ Research digression: the MTM & anchoring

- Closed economy: private-sector aggregate demand (PSAD), supply (AS), and monetary policy rule (MP) . Assume inflation target is $\pi^* = 0$.
- Model 1. Reserve-money programming ($\eta = 0 \rightarrow$ indeterminacy)
 - PSAD1 $\Delta m(t+1) = \pi(t+1) + \Delta x(t+1) - \Delta v(t)$ Δ velocity = $\Delta v(t)$ exogenous
 - AS $\pi(t) = \pi(t+1) + \kappa \cdot x(t)$ Forward-looking NKPC
 - MP1 $\Delta m(t) = -\eta \cdot [\pi(t) - \pi^*]$ **Determinacy requires $\eta > 0$**
- Model 2. The New Keynesian synthesis (Woodford 2003)
 - PSAD2 $x(t) = x(t+1) - \sigma \cdot [i(t) - \pi(t+1) - r]$ Forward-looking IS curve
 - AS $\pi(t) = \pi(t+1) + \kappa \cdot x(t)$ Forward-looking NKPC
 - MP2 $i(t) = r + \tau \cdot \pi(t)$ **Taylor Principle: need $\tau > 1$**
- Interest rates don't appear in model 1; money doesn't appear in model 2. Yet interest-responsive money demand \rightarrow can write MP2 as a money growth rule similar to MP1. **Which PSAD is the right one?**

4. Supporting policy analysis and forecasting

- Extending the IMF's FPAS model to incorporate flexible RM targeting (ongoing, joint research with H. Davoodi, R. Portillo, and J. Vlcek)
- Short-term interest rates are at the center of the MTM in the FPAS
 - Monetary policy follows a Taylor Rule with interest-rate smoothing.
- We start with a reserve-money program, and model deviations as systematic responses to macroeconomic developments.
 - Following Berg *et al.* (2010) and Andrieu *et al.* (2013a, 2013b) on Kenya, deviations are guided by the Taylor Rule for the interbank rate (IBR).
 - Tight adherence to money targets would increase IBR rate volatility – and in this model, macroeconomic volatility too.

➤ Characterizing flexible money targeting

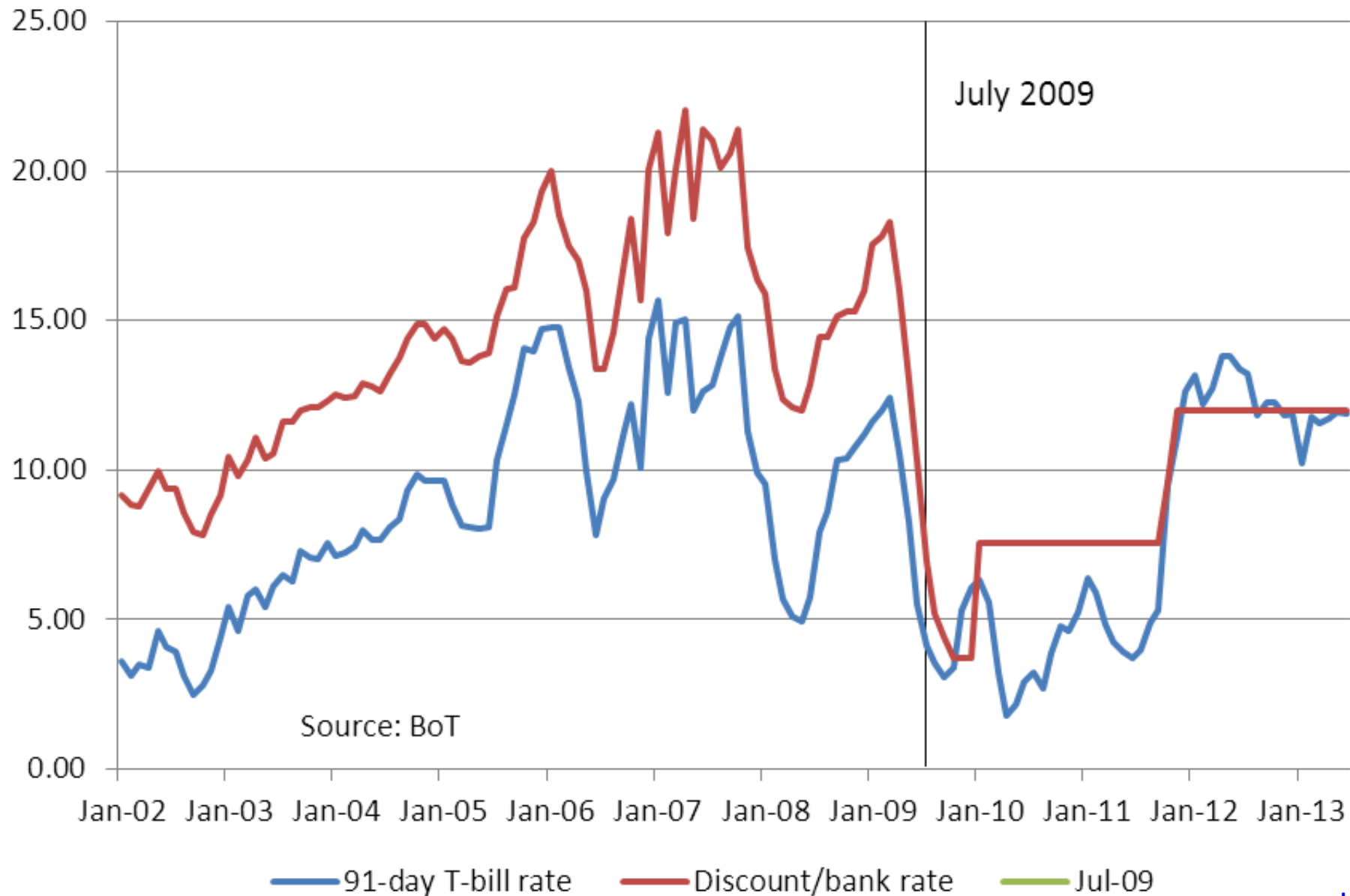
- $i_t = \gamma \cdot i_t^{MT} + (1 - \gamma) \cdot i_t^{TR}, \quad 0 \leq \gamma \leq 1.$
 - The interest rate is set as a weighted average of the Taylor Rule rate the hypothetical ‘money targeting’ rate that would emerge, conditional on the observed state of the economy, if the central bank were to stick with its initial broad-money target.
- Equivalently: $M_t - M_t^{MT} = \omega \frac{(1-\gamma)}{\gamma} \cdot (i_t^{TR} - i_t) - (k_t - k_{t|t-1})$
 - Where ω is the interest elasticity of money demand and k is the money multiplier.

Conclusions

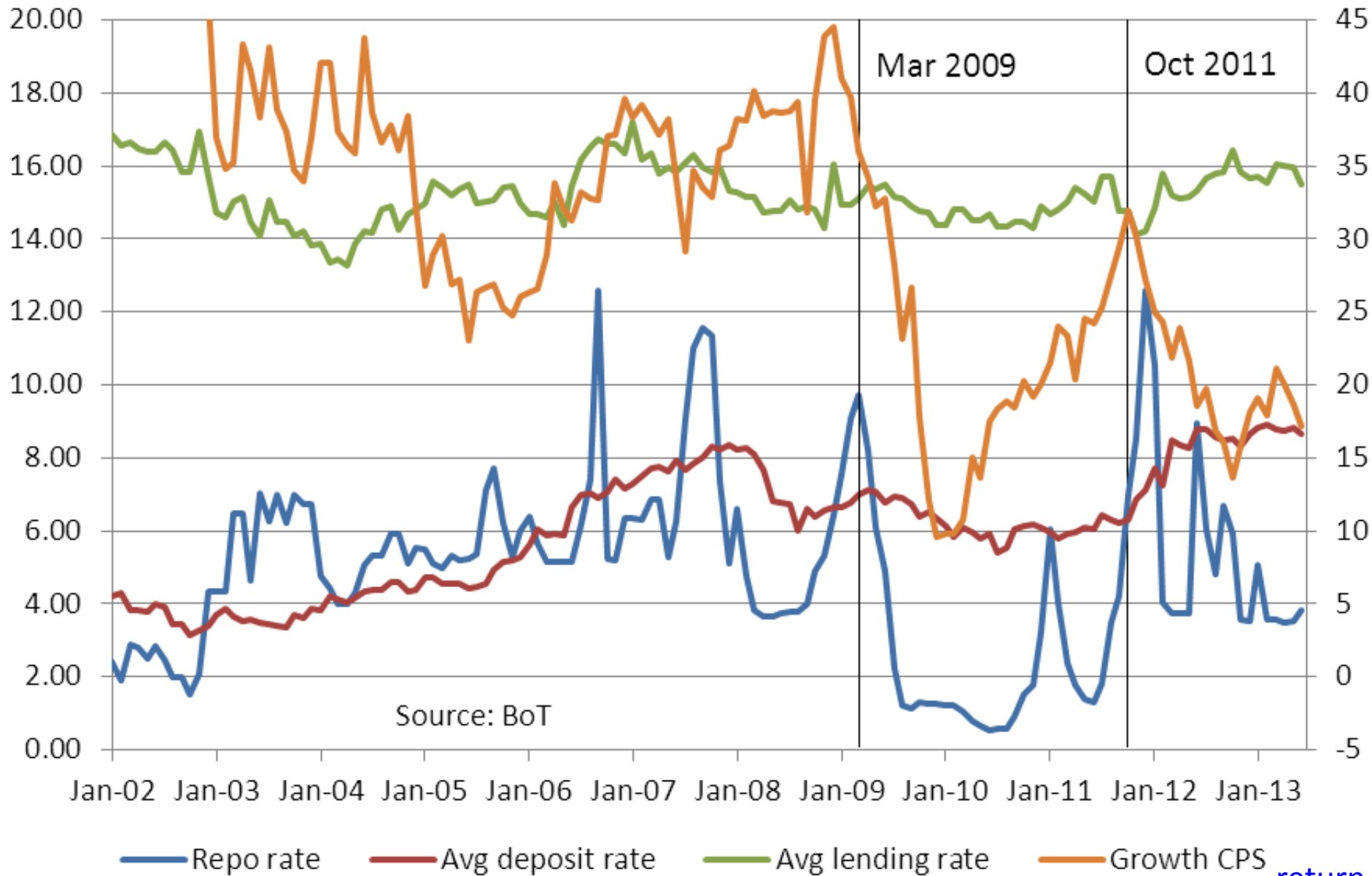
- An operational framework that steers a short-term rate is consistent with the BoT's stabilization and market-development objectives. Does not imply or require moving to formal inflation targeting.
- Likely consequences of making the policy rate effective
 - Political pressures, less interest-rate volatility, stronger MTM
- Key elements of the RM program will remain relevant during and after a transition to greater policy reliance on interest rates
 - Operationally: Forecasting liquidity still key to managing OMOs & standing facilities so as to reconcile steering with promotion of the interbank market.
 - Determining policy stance: informational role for money aggregates.
- Much is still to be learned about the transmission mechanism in TZA, thru research (including micro), scenario analysis, and learning-by-doing.

THANK YOU!

Discount rate/bank rate and 91-day T bill rate



Interest rates and credit to private sector

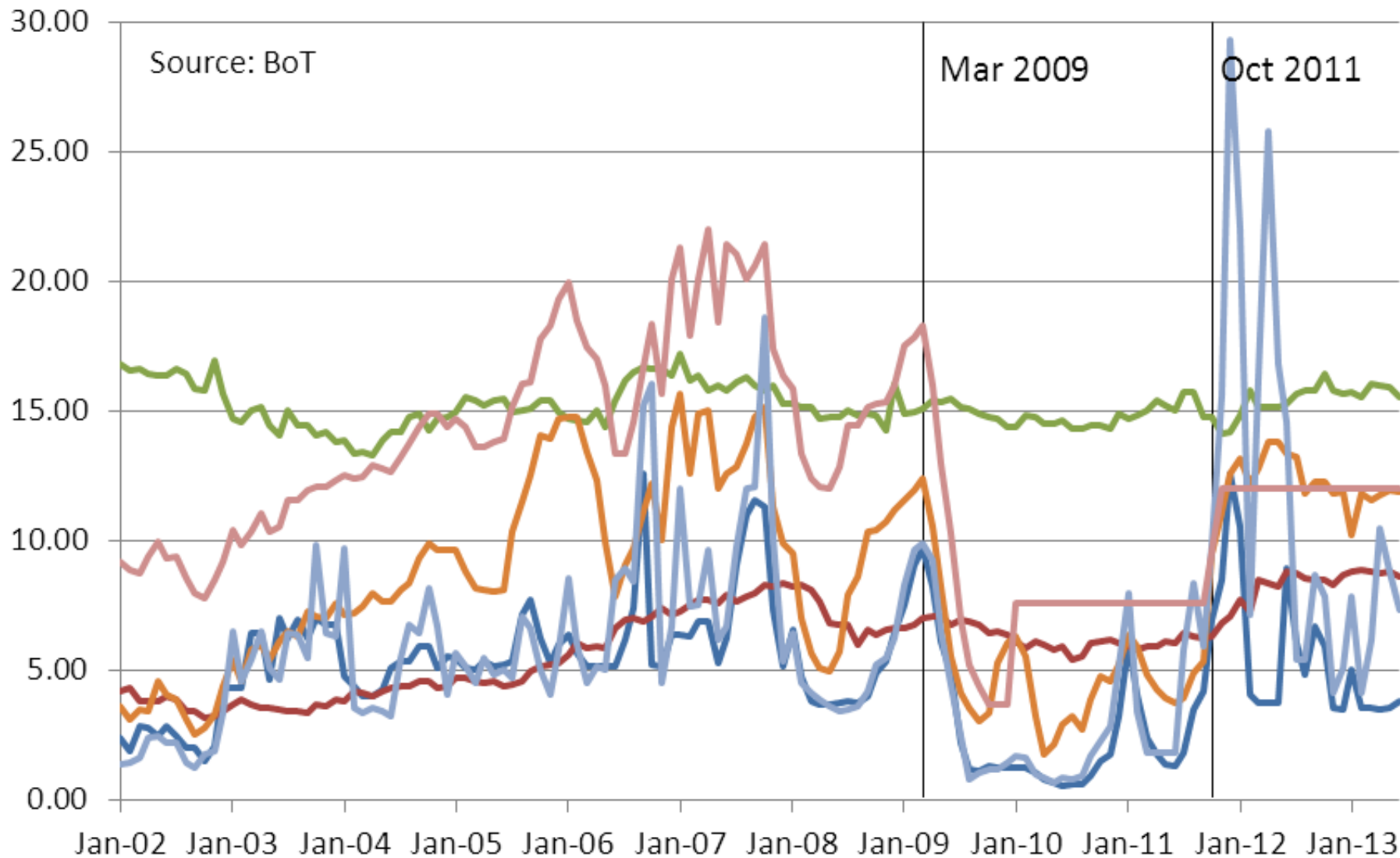


Interest rates in Tanzania

Source: BoT

Mar 2009

Oct 2011



Repo Deposit Lending 91-day Tbill Overnight IBR Bank