

South African Reserve Bank Working Paper Series WP/22/05

**Not so easy: why quantitative easing is inappropriate
for South Africa**

David Fowkes

Authorised for distribution by Konstantin Makrelov

28 March 2022



SOUTH AFRICAN RESERVE BANK

© South African Reserve Bank

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means without fully acknowledging the author(s) and this Working Paper as the source.

South African Reserve Bank Working Papers are written by staff members of the South African Reserve Bank and, on occasion, by consultants under the auspices of the South African Reserve Bank. The papers deal with topical issues and describe preliminary research findings, and develop new analytical or empirical approaches in their analyses. They are solely intended to elicit comments and stimulate debate.

The views expressed in this Working Paper are those of the author(s) and do not necessarily represent those of the South African Reserve Bank or South African Reserve Bank policy. While every precaution is taken to ensure the accuracy of information, the South African Reserve Bank shall not be liable to any person for inaccurate information, omissions or opinions contained herein.

South African Reserve Bank Working Papers are externally refereed.

Information on South African Reserve Bank Working Papers can be found at <https://www.resbank.co.za/en/home/publications/Papers/working-papers>

Enquiries relating to the Working Paper Series can be addressed to:

Head: Economic Research Department
South African Reserve Bank
P O Box 427
Pretoria 0001
Tel. +27 12 313 3911

Not so easy: why quantitative easing is inappropriate for South Africa

David Fowkes*

Abstract

South Africa is an emerging market with robust monetary policy credibility but difficult fiscal dynamics. It might therefore seem like a reasonable candidate for quantitative easing (QE), especially given the use of this tool by several emerging market peers following the onset of the COVID-19 pandemic. However, there are good reasons for the SARB to avoid large-scale purchases of government debt, even if price stability is secure. First, it would risk creating moral hazard, diluting the incentive for fiscal consolidation without removing the need to consolidate. Second, QE would transfer risk to the central bank's balance sheet while bailing out investors who were paid generous yields to hold long-term debt. Taking this risk back onto the consolidated public-sector balance sheet would undermine the fiscal authority's prudent pre-COVID-19 debt management strategy of issuing mostly long-term debt. Third, government is already able to replicate the QE effect of lower borrowing costs by issuing more short-term debt, a tactic National Treasury used successfully during 2020. While QE is a valid monetary policy tool for central banks constrained by the zero lower bound, it is less effective than the standard interest rate tool. As the zero lower bound is not binding in South Africa, it is unnecessary and inappropriate to adopt this inferior instrument.

JEL classification: E58, E65, F33

Keywords: quantitative easing, monetary policy, COVID-19, South Africa

* **David Fowkes** (David.Fowkes@resbank.co.za) is a Lead Economist at the South African Reserve Bank.

1. Introduction and overview of the argument¹

Since the onset of the COVID-19 pandemic, a range of emerging market (EM) central banks have purchased government bonds.² This has not prompted any sudden financial meltdowns and appears to have helped stabilise market conditions. These developments suggest that quantitative easing (QE) has become a viable tool for EM central banks.³

Although South Africa is sometimes cited as an example of an emerging market that has implemented QE, the SARB has resisted that characterisation.⁴ Instead, it has emphasised that its bond purchases have been aimed at preserving bond-market functioning rather than delivering stimulus.⁵ This position reflects a pre-crisis paradigm that central banks should rely on the short-term interest rate tool for pursuing monetary policy objectives, resorting to other tools only where the zero lower bound becomes a constraint.⁶ Has this paradigm been superseded? While new QE proponents have emphasised the importance of central bank credibility and well-anchored inflation

¹ Thanks to Rashad Cassim, Chris Loewald, Konstantin Makrelov, Bafundi Maronoti, Manisha Morar, Josina Solomons, Sam Springfield, Daan Steenkamp and Henk Janse van Vuuren, as well as an anonymous reviewer, for comments on draft versions of this paper. Any remaining errors are solely the author's. In the interests of improving public understanding of this issue, this paper aims to use plain language as much as possible.

² For country cases, see T Adrian, C Erceg, S Gray and R Sahay 'Asset purchases and direct financing', 2021. <https://www.imf.org/en/Publications/Departmental-Papers-Policy-Papers/Issues/2021/10/08/Asset-Purchases-and-Direct-Financing-Guiding-Principles-for-Emerging-Markets-and-Developing-464660>, especially figure 1, p 2.

³ See for instance International Monetary Fund (IMF), 'Chapter 2', in *Global Financial Stability Report: Bridge to Recovery*, 2020. <https://www.imf.org/en/Publications/GFSR/Issues/2020/10/13/global-financial-stability-report-october-2020#Chapter2>

⁴ L Kganyago, 'In the shadow of COVID: Lessons from 20 years of inflation targeting'. Address by Lesetja Kganyago, Governor of the SARB, at the University of Pretoria on 12 August 2020. <https://www.resbank.co.za/en/home/publications/publication-detail-pages/speeches/speeches-by-governors/2020/565>

⁵ L Kganyago, 'The South African Reserve Bank, the coronavirus shock, and 'the age of magic money''. Address by Lesetja Kganyago, Governor of the SARB, at the Wits School of Governance, Johannesburg, on 18 June 2020. https://www.gov.za/sites/default/files/gcis_document/202006/The%20SARB%20the%20coronavirus%20shock%20and%20the%20age%20of%20magic%20money.pdf

⁶ For instance, this was the response to 2019 calls for 'quantity easing' – see Business Day TV, 'WATCH: Why quantitative easing is not right for SA', 7 June 2019. <https://www.businesslive.co.za/bd/national/2019-06-07-watch-why-quantitative-easing-is-not-right-for-sa/>

expectations for identifying countries which qualify for QE,⁷ they have not tested their claims against the more fundamental arguments which underpinned the old paradigm. It is correct to say QE should not be tolerated where it would undermine price stability and that QE need not be inflationary. But these points do not settle the debate in favour of QE.

This paper considers the South African case and sets out three main arguments against pursuing QE, understood as a programme of large-scale asset purchases funded through money creation, in South Africa.

- First, a moral hazard argument: QE could exacerbate South Africa's fiscal sustainability challenges, removing a major incentive – elevated long-term borrowing costs – to undertake difficult but necessary corrective action. QE does not lift the government's budget constraint in a material way, so consolidation remains necessary. However, QE would recast borrowing costs as a central bank responsibility rather than a market signal about debt sustainability, with the central bank then becoming either a scapegoat (if costs stayed high) or an enabler (if costs were artificially depressed). (See section 4.)
- Second, a risk objection: QE would reward private-sector bond holders who were paid to take risk by buying long-term government debt, pre-crisis, and who should still be expected to bear that risk rather than return it to the public sector via the central bank's balance sheet. If the SARB commits to buying up government debt when prices fall, this could attract new investors by offering them a 'heads you win, tails we lose' trade. But in that case government should not have paid a premium for issuing long-term debt before the crisis, and it should not be paying large term premia subsequently. A debt management strategy featuring both long debt maturities and QE embodies a contradiction, which is one reason the central bank should not interfere with the fiscal

⁷ An example is G Benigno, J Hartley, A García-Herrero, A Rebucci and E Ribakova, 'Credible emerging market central banks could embrace quantitative easing to fight COVID-19'. *VoxEU* blog, 29 June 2020. <https://voxeu.org/article/credible-emerging-market-central-banks-could-embrace-quantitative-easing-fight-covid-19>

authorities' prerogative to design the sovereign's debt portfolio. (See section 5.)

- Third, an equivalence argument: fiscal authorities can achieve a QE effect by issuing more short-term debt – as government did during 2020, significantly lowering its average cost of new borrowing. Central banks have long preferred to use short-term interest rates as their main policy tool because they are the monopoly supplier of bank reserves and therefore have unrivalled power in the interbank market, which pins down the short end of the yield curve. Central banks have no such special position in longer-term debt markets, where their trades just amount to switching long-term debt for short-term debt. The combination of the SARB cutting rates and National Treasury shortening its debt maturity, during 2020, replicated the effect of QE without its negative side effects – that is, moral hazard and central bank risk-taking. (See section 6.)

Rather than debating QE further, it would be more fruitful to focus research efforts on assessing the proper scope of liquidity interventions. Should a central bank always be willing to intervene to ensure government can borrow at the going rate, be it the short rate pinned down by monetary policy or longer-term rates set by markets? This paper concludes with some considerations on this subject that could inform further research.

2. Defining QE

The term quantitative easing originated in the early 1990s, and specifically in the work of Richard Werner, an economist engaged in debates about Japan's economic crisis and subsequent stagnation. Curiously, Werner himself opposed the specific policies the Bank of Japan (BoJ) later conducted under the name QE, arguing that mere changes in the supply of bank reserves would not expand the broader money supply. Rather, he envisioned a policy aimed at boosting credit creation by encouraging bank lending, via measures such as central bank purchases of the bad debts of private banks and government borrowing from banks rather than the bond market. Werner avoided calling this 'credit easing' only because this term would be obscure in

Japanese.⁸

Strikingly, in describing the United States Federal Reserve's (the Fed's) asset purchases after the global financial crisis, Ben Bernanke also disavowed the term 'quantitative easing' in favour of 'credit easing', and explicitly distinguished these operations from the BoJ's policies.⁹ The term 'quantitative easing' caught on nonetheless – an interesting example of an esoteric term crowding out a plainer-language alternative. The fact that the concept of QE escaped both its creator and its principal champion helps explain its imprecision.¹⁰

In contemporary usage, QE appears to refer to a policy of asset purchases – typically government bond purchases¹¹ – financed by money created by the central bank. One problem with that definition, however, is that central banks have long bought and sold such securities. They have done so to implement their monetary policies, with bond transactions commonly used to expand or contract the money supply.¹² They have also bought bonds to protect financial stability: to cite a nineteenth century precedent, Walter Bagehot's classic *Lombard Street* clearly describes the Bank of England's (BoE's) practice of purchasing government bonds to ease financial panics by providing

⁸ R Werner, 'Quantitative Easing and the Quantity Theory of Credit'. https://www.ru.nl/publish/pages/750457/res_newsletter_werner_qe_qtc_july2013.pdf Werner also warned against monetary policy measures that would inflate asset prices but not raise affecting economic output (he referred to "GDP transactions") – a major theme of QE debates two decades later.

⁹ B S Bernanke, 'The crisis and the policy response'. The Stamp Lecture given by Ben Bernanke, London School of Economics, London, England, on 13 January 2009. <https://www.federalreserve.gov/newsevents/speech/bernanke20090113a.htm> See especially the section *Credit easing versus quantitative easing*.

¹⁰ Its very obscurity may explain some of its appeal, with the term having even appeared in popular culture as a marker of esoteric knowledge. An example is the film *Kingsman: The Golden Circle*, in which Eggsy surprises the King of Sweden with an apparently nuanced view of the factors shaping Indian financial conditions, including QE. For a transcript, see IMDb, *Sophie Cookson: Roxy*, a webpage of quotations. <https://www.imdb.com/title/tt4649466/characters/nm5824400>

¹¹ The exceptions include purchases of bonds of government-backed entities in the US, such as Fannie and Freddie Mac, as well as corporate bond purchases by the European Central Bank.

¹² To give just one prominent example, this is the substance of normal monetary policy operations for the Fed. See Board of Governors of the Federal Reserve System, *Open market operations*. https://www.federalreserve.gov/monetarypolicy/bst_openmarketops.htm

liquidity.¹³ Any assertion that central bank asset purchases are innovative or unconventional is therefore historically unfounded.

Modern-day asset purchases are certainly remarkable for their sheer scale.¹⁴ Focusing on size as the defining quality of QE, however, makes it difficult to find the line where QE emerges from smaller-scale operations. For this reason, it is more helpful to think of QE as a tool for achieving monetary policy objectives, typically the Taylor-rule goals of closing the output gap and stabilising inflation in line with the target. This definition, for instance, was invoked by Janet Yellen in 2019 when the Fed bought bonds following an unexpected and unintended tightening in short-term rates: “It’s not QE because it’s not intended to provide additional monetary accommodation.”¹⁵

In this spirit, this paper treats QE as central bank asset purchases aimed at achieving monetary policy objectives. Implicit in this definition is a requirement that purchases be substantial in scale, as small-scale interventions are unlikely to have macroeconomic consequences commensurate with monetary policy objectives.¹⁶

This characterisation of QE, as targeting monetary policy objectives, explicitly sidelines financial stability goals. The two are frequently entangled, of course: a breakdown in financial stability, for instance, is also likely to threaten price stability and full production. This overlap helps explain the recent BoE finding, in a paper by the incumbent BoE Governor and four co-authors, that QE works better in periods of market dysfunction. As that paper correctly notes, however, “this principle dates back to the inception of modern central banking” and Bagehot’s advice in *Lombard Street*.¹⁷

¹³ W Bagehot, *Lombard Street: A description of the money market*, 2015 (originally 1873), p 17.

¹⁴ M King, *The end of alchemy*, 2017, Abacus: London, pp 182–183.

¹⁵ Quoted in J Mackintosh, ‘Finding meaning in Quantitative Easing’. *Wall Street Journal*, 12 October 2019. <https://www.wsj.com/articles/finding-meaning-in-quantitative-easing-11570872601>; see also J Smialek, ‘Fed unveils plan to expand balance sheet, but insists it’s not QE’. *New York Times*, 11 October 2019. <https://nyti.ms/2lJgRV7>

¹⁶ L R Ricketts (2011, April) ‘Quantitative Easing Explained’. *Liber8 Economic Information Newsletter*, April 2011. <https://files.stlouisfed.org/files/htdocs/pageone-economics/uploads/newsletter/2011/201104.pdf>

¹⁷ A Bailey, J Bridges, R Harrison, J Jones and A Mankodi, ‘The central bank balance sheet as a policy tool: past, present and future’ *Bank of England Staff Working Paper No. 899*, London:

Because the debate over central banks providing liquidity to alleviate financial panics is old and largely settled – Bagehot was right – while the argument over QE to achieve monetary policy goals is newer and vastly more contested, this paper focuses only on the latter.

A second question is the use of QE for government financing. If the post-2009 QE experience was about monetary stimulus at the zero lower bound, the COVID-19-era QE debate, particularly for emerging markets, has often been about facilitating government borrowing in the context of a pandemic. This paper therefore takes special interest in government financing. It nonetheless retains the lens of the traditional monetary policy objectives of stabilising inflation at the target while minimising the output gap. The strong argument for QE, in the COVID-19 era, is that it would have been a more effective form of stimulus and need not have caused excess inflation. Accordingly, the test is whether QE, as a tool, would have produced better outcomes in terms of these output gap and inflation objectives, relative to pure reliance on short-term rate adjustments.

3. Monetary policy implementation and the mechanics of QE

To understand objections to QE, it is important to understand the mechanics of monetary policy implementation. Unfortunately, this subject is often weakly understood, in part because standard textbook expositions typically entail central banks fixing quantities of money (as in the IS-LM¹⁸ model) which affect broader monetary conditions through a money-multiplier mechanism.¹⁹ By this argument, a

Bank of England, December 2020. <https://www.bankofengland.co.uk/working-paper/2020/the-central-bank-balance-sheet-as-a-policy-tool-past-present-and-future>

¹⁸ IS-LM: Investment/saving-liquidity preference/money supply

¹⁹ M McLeay, A Radia and R Thomas, (2014) 'Money creation in the modern economy'. *Bank of England Quarterly Bulletin*, London: Bank of England, 2014. <https://www.bankofengland.co.uk/-/media/boe/files/quarterly-bulletin/2014/money-creation-in-the-modern-economy.pdf> "While the money multiplier theory can be a useful way of introducing money and banking in economic textbooks, it is not an accurate description of how money is created in reality. Rather than controlling the quantity of reserves, central banks today typically implement monetary policy by setting the price of reserves — that is, interest rates." For an earlier discussion of this process in the South African context, see M Kock and N Brink, 'Central bank balance sheet policy in South Africa and its implications for money-market liquidity'. *South African Reserve Bank Working Paper Series No. WP/10/01*, Pretoria: South African Reserve Bank, December 2009, esp. pp

central bank issues high-powered base money in given quantities, which commercial banks, operating a fractional reserve system, then turn into a much larger overall money supply. It follows that when a central bank creates more money, for instance to purchase government bonds, that money is multiplied through the banking system. Inflation is then expected to result because of too much money chasing too few goods.

In explaining why massive asset purchases by advanced economy central banks didn't produce inflation after the global financial crisis, this account can only say that money multipliers collapsed, leaving cash dammed up on banks' balance sheets instead of flowing to the economy. The puzzle is why banks failed to lend out all the extra bank reserves at their disposal.

However, as Todd Keister and James McAndrews have noted in an important corrective, "the total level of reserves in the banking system is determined almost entirely by the actions of the central bank and is not affected by private banks' lending decisions."²⁰ This is because the market for bank reserves is a closed loop. Banks within the loop have central bank accounts and can transfer balances between each other, but they cannot move a claim on the central bank to any institution without such an account. In the South African case, there are 33 institutions with access to the payments system, South African Multiple Option Settlement, which are able to hold and use central bank reserves. Any expansion of bank reserves must be held in these accounts; it cannot be transferred elsewhere. Individual banks may use their balances to acquire assets, but in doing so they always make transfers to other account holders within the loop. The only way these claims can leave the loop is in the form of notes and coin, which are the sole central bank liabilities available to the public.²¹

21–22. <https://www.resbank.co.za/content/dam/sarb/publications/working-papers/2010/3578/WP-10-01.pdf>

²⁰ T Keister and J McAndrews, 'Why are banks holding so many excess reserves?' *Current Issues in Economics and Finance*. 15(8), 2009. https://www.newyorkfed.org/medialibrary/media/research/current_issues/ci15-8.pdf See also P Sheard, (2013, August 13) 'Repeat after me: Banks cannot and do not 'lend out' excess reserves', *RatingsDirect*, 13 August 2013. [https://www.hks.harvard.edu/sites/default/files/centers/mrcbg/programs/senior.fellows/2019-20%20fellows/BanksCannotLendOutReservesAug2013_%20\(002\).pdf](https://www.hks.harvard.edu/sites/default/files/centers/mrcbg/programs/senior.fellows/2019-20%20fellows/BanksCannotLendOutReservesAug2013_%20(002).pdf)

²¹ When members of the public need notes and coin, they source them from banks which in turn

It is not, therefore, the quantity of money that transmits to the larger economy from this closed loop, but its price – which is why central banks typically set short-term rates instead of quantities, contrary to the textbook IS-LM model.²² That price in turn affects other financial decisions in the economy, by pinning down the shortest end of the yield curve, which is the rate for risk-free and maximally liquid assets, and through the role of interbank rates as benchmarks for other lending. (For instance, in South Africa the repo rate underpins the prime rate, which in turn is used to price most mortgages and vehicle loans.) At no point in this process will external players come to hold central bank reserves, regardless of its quantities.²³ Metaphorical language about ‘tidal waves of liquidity’ from central banks has therefore been largely misleading. Central bank liquidity, other than notes and coin, is trapped in the banking system.

One implication of these ‘fundamental physics’ of monetary policy is that central bank purchases of government debt do not simply net out, making QE free money. At first sight, it might appear that if one part of the broad public sector (the central bank) holds a claim on another (the treasury), then there is no net debt as the public sector owes money only to itself. The problem is that central bank asset purchases will expand the supply of bank reserves, which are held by the banking system. This occurs because a central bank which buys a government bond, to implement QE, pays for it by creating new bank reserves which are placed with banks. If the bond is purchased on the secondary market, the bank reserves flow to the banking sector as payment for the bond; if the bond is purchased directly, then government would be credited with cash,

must get them from the monopoly issuer of currency, which is the central bank. These withdrawals by banks reflect as a deduction to their reserve balances at the central bank.

²² Old-style monetarists maintained that quantities of central bank money or base money affected larger monetary aggregates through multipliers, but this position has been debunked. An important paper in shifting views was M Woodford, ‘Monetary policy in a world without money’. *International Finance* 3(2), 2000, pp 229–260. See also U Bindseil, ‘The operational target of monetary policy and the rise and fall of reserve position doctrine’ *European Central Bank Working Paper Series No 372*, Frankfurt: European Central Bank, June 2004. <https://www.ecb.europa.eu/pub/pdf/scpwps/ecbwp372.pdf> On the IS-LM model and its unrealistic portrayal of central bank practice, see C A E Goodhart, ‘The continuing muddles of monetary theory: A steadfast refusal to face facts’. *Economica*, 76, 2009, pp 821–830.

²³ A Martin, J McAndrews and D Skeie, (2016, December) ‘Bank lending in times of large bank reserves’. *International Journal of Central Banking* 12(4), 2016, pp 193–222. <https://www.ijcb.org/journal/ijcb16q4a5.pdf>.

deposited in its accounts at banks or at the central bank, depending on the institutional setup, which would circulate to banks as government spends the proceeds of its loan. QE as a government funding strategy is therefore much like issuing any government debt instrument, with the caveats that the resulting debt has a very short maturity and can only be held by banks, not other investors.²⁴ There is no free lunch to be had from cancelling government debt held by the central bank, as the broad public sector does not thereby cancel the bank reserves owed to banks.

It also follows, from these principles, that a central bank can separate its interest rate and balance sheet policies, provided it has tools to prevent the *price* of bank reserves from being affected by changes in the *quantities* of bank reserves.²⁵ For this reason, monetary financing need not be inflationary, because central banks can still use short-term rates to control inflation, even with a larger monetary base. This has been known to economists, as a theoretical possibility, for decades; James Tobin, for instance, proposed paying interest on reserves to control short-term rates in 1960.²⁶ It has also been vindicated practically by recent central bank experience. For example, the interest-on-reserves tool allowed the Fed to raise the Fed Funds Rate, between 2015 and 2018, despite a massively expanded balance sheet.²⁷ Similarly, in the United Kingdom, reserves are automatically remunerated at Bank rate (the policy rate), which allowed the BoE to increase this rate between 2017 and 2018 despite an abundance of bank reserves.²⁸

²⁴ A further novelty is that banks cannot refuse to hold this asset, making it a non-consensual form of debt issuance.

²⁵ Borio and Disyatat refer to this as the ‘decoupling principle’ – see C Borio and P Disyatat, ‘Unconventional monetary policies: an appraisal’. *Bank for International Settlements (BIS) Working Papers No 292*, Basel: BIS, November 2009. <https://www.bis.org/publ/work292.pdf>

²⁶ As discussed in E Nelson, *Milton Friedman and economic debate in the United States*, 2020, University of Chicago Press: Chicago & London, p 316.

²⁷ Board of Governors of the Federal Reserve System, ‘Press Release’. Media release, 6 October, Washington, DC: US Federal Reserve, 2008. <https://www.federalreserve.gov/monetarypolicy/20081006a.htm>

²⁸ R Clews, C Salmon and O Weeken, ‘The Bank’s money market framework’. *Bank of England Quarterly Bulletin*, London: Bank of England, 2010, pp 297–298. <https://www.bankofengland.co.uk/-/media/boe/files/quarterly-bulletin/2010/the-banks-money-market-framework.pdf>; for a more general discussion of sterilisation techniques, see M Amstad and A Martin, ‘Monetary policy implementation: Common goals but different practices’. *Current Issues in Economics and Finance*. 17(7), 2011, pp. 1–11. https://www.newyorkfed.org/medialibrary/media/research/current_issues/ci17-7.pdf

Interest on reserves appears to be the only tool capable of securing interest rate control in the context of large balance sheet expansions, but central banks have also used a range of other tools to deal with smaller quantities of excess liquidity that would otherwise interrupt interest rate transmission (for instance, they can issue debentures or bonds).²⁹ This shows that monetary financing is not simply and necessarily inflationary financing. But it is also not free financing – instead, it is funding with a cost determined by whatever liquidity management operations are required to maintain interest rate control.

There are, however, two special cases where central bank money creation is effectively a free lunch, for government, without inflationary consequences. The first, which applies across all currency-issuing jurisdictions, relates to the ‘autonomous factors’, which is money issued to the public in the form of notes and coin plus required reserves of banks. As these liabilities do not pay interest, they constitute an interest-free loan from the public to the central bank, which can use them to fund a matching expansion on the asset side of the central bank’s balance sheet. These autonomous factors represent the kind of free monetary financing which some observers appear to believe could be achieved with QE. But demand for notes and coin is not determined by the central banks (hence the terminology ‘autonomous factors’), and therefore cannot be manipulated to finance asset purchases.

The second condition, which is something of an historical novelty, occurs where interest rates meet the zero lower bound. In this case, a larger supply of bank reserves will not lower short-term rates further, so there is no requirement for interventions to maintain interest rate control, and the scope for seigniorage profits grows enormously.³⁰ Put differently, this is equivalent to the central bank promising to

²⁹ For details of strategies used by Asian central banks to sterilise funds created for foreign exchange reserve accumulation, see A Mehrotra, ‘On the use of sterilisation bonds in emerging Asia’, 2012. <https://www.bis.org/events/cbbsap/mehrotra.pdf>

³⁰ Rates can fall further if central banks choose to adopt negative rates on deposits, but this will not come about as a side effect of monetary expansion. On the scope for massively expanding seigniorage at the zero lower bound, see W Buiter, *Central banks as fiscal players*, 2021, Cambridge University Press: Cambridge, pp 22–23.

remunerate all bank reserves at the policy rate, which is costless when that rate is zero.³¹ The zero lower bound has been a crucial driver of QE policies in many advanced economies, and even briefly in emerging markets such as Chile. It has not been a constraint locally, however, with rates bottoming out at 3.5% during the COVID-related easing cycle. It should also be noted that there is nothing special about monetary financing at the zero lower bound, as orthodox debt financing can yield the same results.³²

In the South African case, the obligation to sterilise arises specifically from the shortage system used to implement monetary policy. Banks have a statutory reserve requirement and the SARB uses open market operations to drain excess liquidity, ensuring that there are insufficient reserves available for banks to meet this requirement without sourcing them directly from the SARB. It follows that if the SARB permits surplus liquidity in the system – by issuing excess reserves to purchase bonds – and does not engage in offsetting sterilisation operations, then the shortage would contract or disappear. Banks would therefore no longer need to borrow from the SARB and the monetary policy framework would become ineffective. More precisely, given conditions of abundant liquidity, rates would fall to the standing deposit facility, at which point the SARB would effectively be operating a floor system, paying interest on excess reserves, but with interbank rates aligned to this floor rather than the repo rate chosen by the Monetary Policy Committee (MPC).³³

³¹ If a zero interest rate is below the neutral rate, understood as the rate which neither stimulates nor constrains economic activity, then setting rates to zero would be stimulatory and so the zero lower bound would not constrain policy for very long. This is because inflation would rise, the real rate would fall and the policy stance would become progressively more stimulatory until the central bank chose to raise rates. However, in a situation where the neutral rate is itself at or below zero, it is conceivable that zero interest rates could persist for an extended period without engineering faster inflation. This appears to be the case in the economies cited above. For detail on a global decline in neutral rates, see K Holston, T Laubach and J C Williams, 'Measuring the Natural Rate of Interest: International Trends and Determinants'. *Journal of International Economics* 108(1), 2017, S39–S75.

³² P Stella, M Singh and A Bhargava, 'Some alternative monetary facts', *IMF Working Paper No 2021/006*, Washington, DC: IMF, January 2021. <https://www.imf.org/en/Publications/WP/Issues/2021/01/08/Some-Alternative-Monetary-Facts-49975>

³³ On this subject, see also D J van Lill, 'Changes in the liquidity effect over time: Evidence from four monetary policy regimes', *Economic Research Southern Africa Working Paper 704*, Cape Town: Economic Research Southern Africa, August 2017.

In a shortage system, there will be some ambiguity as to the necessary size of the shortage. Expansions in liquidity that reduced the shortage by only moderate amounts would probably not affect transmission and could therefore be unsterilised. Indeed, following the onset of the pandemic the SARB did conduct some unsterilised operations, allowing the shortage to decline from R56 billion pre-COVID-19 to an average of approximately R30–R35 billion subsequently.³⁴ The SARB framework did not, therefore, entail a one-for-one requirement to sterilise.

Given the scale of QE proposals, however, this ambiguity is essentially irrelevant for the principle that money creation entails offsetting sterilisation activities. For instance, early in the COVID-19 crisis one analyst called for QE purchases of between R10 billion and 20 billion per week, while another proposed a QE-funded stimulus of R1 trillion.³⁵ Both these proposals would have eliminated the shortage very quickly. Indeed, it is striking that these proposals ignored the problem of monetary policy implementation under a shortage system, calling for asset purchases that would have eliminated the SARB's ability to implement the MPC's interest rate decisions. Furthermore, although implementation frameworks can be reformed, it would not have been possible to conduct such reforms efficiently and promptly in the middle of a major crisis.

In sum, this analysis of the mechanics of monetary policy implementation shows that QE is not a form of free money. It is an exchange of one kind of asset issued by the public sector – a government bond – for another kind, which is reserves issued by the central bank, an asset that can only be held by institutions with central bank accounts

https://www.econrsa.org/system/files/publications/working_papers/working_paper_704.pdf

³⁴ The SARB has nonetheless ramped up sterilisation activities to offset other transactions – only a portion of liquidity-injecting operations were unsterilised.

³⁵ See A Donaldson, 'Monetary management, financial markets and public debt: responding to COVID-19 and the economic standstill'. *Covid-19 Economic Ideas* webpage, 9 April 2020. <https://covid19economicideas.org/2020/04/09/monetary-management-financial-markets-and-public-debt-responding-to-covid-19-and-the-economic-standstill/> and O Willcox, 'Macroeconomic response to COVID-19', *Trade & Industrial Policy Strategies Policy Briefs*, Pretoria: Trade & Industrial Policy Strategies, May 2020. <https://www.tips.org.za/policy-briefs/item/3798-macroeconomic-response-to-covid-19>

(mainly commercial banks). If the supply of this latter asset is expanded, a central bank will need to intervene with one or another tool, such as paying interest on reserves, to retain control of interest rates. While QE can be caricatured as a policy of money-printing, with the risk being that a massive supply of money will produce massive inflation, this portrayal is unhelpful for understanding the monetary dynamics of a modern economy. Given these insights, it follows that the case against QE goes beyond inflation control. The following sections set out three other objections relevant to South Africa. The first of these is the problem of moral hazard.

4. The problem of moral hazard

Over the course of the 2010s, South Africa experienced a significant fiscal deterioration, adding more debt (relative to GDP) than any top-20 emerging market other than Argentina and Iran. Major contributors to this debt were higher spending, particularly on remuneration for civil servants, as well as bailouts for state-owned enterprises. The COVID-19 shock prompted significantly more borrowing and fiscal deficits are expected to remain large for an extended period. In these circumstances, South Africa has lost its investment-grade credit rating and debt-service costs have risen.

A conventional interpretation of these facts would be that fiscal consolidation is required to achieve debt stabilisation and therefore sustainability. Without the incentives and information provided by higher interest rates on long-term debt, the risk is that this adjustment could be postponed, making the ultimate correction even more difficult. If this interpretation is valid, then it is important to retain market-based pricing, rather than attempt to lower long-term rates via bond purchases and thereby create an illusion of fiscal space.

The alternative claim would be that central banks can create fiscal space, which would either facilitate consolidation or remove the need for it altogether. On close inspection, there are four tools which might deliver these effects. The first is a shift in the maturity of government debt to make it cheaper by reducing the term and risk premia which would otherwise be demanded by creditors. The second is a transfer of central bank profits, possibly including future profits. The third is negative equity. The fourth is economic growth, triggered by stimulus made possible by central bank intervention.

The remainder of this section discusses the scope for these four tools to alleviate the government budget constraint.

Superficially, the debt maturity tool has attractive properties. If short-term rates are low, and long-term rates are high, a central bank can reduce government borrowing costs by buying up long-term debt and exchanging it for bank reserves. For instance, a central bank can purchase bonds on the secondary market, cover sterilisation costs with the interest payments on those bonds and still generate a profit on the spread between long and short rates, which it could remit to government. Similarly, a central bank could purchase bonds directly from government, if legal restrictions permit, and profit in the same way.

This strategy entails obvious interest rate risk, in that short rates could rise, but a steep yield curve would mitigate this risk.³⁶ There is also a clear danger that a central bank will keep short rates too low to improve the profitability of this trade, but this paper uses an assumption that QE as an inflation tax is too obviously undesirable to merit further scrutiny.

The deeper problems with this debt maturity tool are the risk and equivalence arguments detailed below: government can already issue short-term debt without central bank involvement, if short-term rates are attractive, and bond purchases add risk to the central bank's balance sheet. These risks are more acute if the bond purchases change government's incentives to achieve sustainability, which is of course the moral hazard problem. The challenges for proponents of this tool are to explain why QE is preferable to government issuing more short-term debt.

The second tool is some form of central bank dividend, which could be purchases of zero-coupon bonds or simply a special payment from the central bank to the

³⁶ Under this arrangement, the SARB would remit the profits arising from the spread between the bond yield and the repo rate – although it could be necessary to retain some of the profit as reserves to protect against declines in bond prices, as section 24 of the South African Reserve Bank Act 90 of 1989 requires provisions for losses to be deducted from profits before any remittance to Treasury takes places.

government. (This second case would not qualify as QE, but the source of revenue for government would be the same as in the first case.) The core problem with relying on this strategy, at least in the South African context, is that the amounts involved would not be game changing. The SARB's accumulated capital and reserves are around R26.8 billion. By comparison, the 2021 *Budget Review* envisioned fiscal deficits averaging R534.63 billion for the fiscal years 2020/21–2022/23.³⁷ The entirety of the SARB's capital and reserves would therefore only finance about 5% of a single year's borrowing. It is conceivable that this could be a useful source of support in a crisis, if other measures failed, but it would not shift longer-term budget constraints materially and would not remove the need for fiscal consolidation.

A similar problem afflicts the more unorthodox possibility of making advances on future income. Assuming SARB profits were around R5 billion, close to the 2020/21 group profit of R4.7 billion, an advance of five years' profits would be equivalent to around R25 billion. Again, this is less than 5% of the average three-year financing need cited above.³⁸

The third and most extreme tool would be to run the central bank at negative equity, making transfers on a scale large enough to accommodate government borrowing

³⁷ National Treasury, *Budget Review*, 2021, p.34.
<http://www.treasury.gov.za/documents/National%20Budget/2021/review/FullBR.pdf> This number had been revised down from R593.6 billion in October 2020 – see National Treasury, *Medium Term Budget Policy Statement*, 2020, p 7.
<http://www.treasury.gov.za/documents/mtbps/2020/mtbps/FullMTBPS.pdf>

³⁸ The SARB's reserves are also not large by international standards, further supporting the claim that the SARB cannot provide substantive financial support to government from its reserves. For instance, its 'core capital', defined as retained earnings plus contingency reserves, is below the global median. See A Anand, J Felman, N Sharma and A Subramanian, 'Paranoia or prudence: How much capital is enough for the RBI?' *Economic and Political Weekly* LIII(8), 2018, pp 35–44. https://www.ies.gov.in/pdfs/SA_LIII_48_081218_Abhishek_Anand_et_al.pdf The SARB's reserves are substantially smaller than the Reserve Bank of India's, where a special dividend of US\$24.8 billion was paid in August 2019 (equivalent to approximately R372 billion at the prevailing exchange rate). A Kazmin (2019, August 27) 'Indian central bank hands Modi government \$24.8bn windfall'. *Financial Times*, 27 August 2019. <https://www.ft.com/content/552a238e-c820-11e9-a1f4-3669401ba76f>; see also A Subramanian, *Of counsel*, 2018, Penguin. pp 66–75 – the chart on p 68 shows South Africa as a high-reserve central bank, but this is due to the inclusion of foreign exchange reserves, which are managed by the SARB on behalf of government. The more detailed paper cited above provides the more informative 'core capital' comparison.

needs and funding these payments by exploiting the unique prerogative of central banks to create their own, unredeemable liabilities.³⁹ Unlike special dividend payments, this tool could hypothetically fund a borrowing requirement of any size, with all sterilisation costs met by creating yet more liquidity. However, this strategy would have an explosive dynamic in that each new round of liquidity creation would require yet more sterilisation and therefore even more money creation. For instance, if the SARB committed to providing R200 billion annually, while paying interest on these excess reserves to maintain interest rate control and also raising each annual payment by inflation, the first-year charge would be R208 billion. By the second year the amount would be R437 billion, by the third year R697 billion and by the fourth year nearly R1 trillion (R991 billion).⁴⁰

It is difficult to imagine an endpoint to this kind of negative equity situation other than a breakdown in sterilisation operations, a loss of central bank independence and a surge in inflation, which has been the usual recourse of insolvent central banks.⁴¹ A negative equity situation might also require recapitalisation by the state, contradicting the rationale for deploying the negative equity tool, which is to raise the spending power of the state. While a central bank does not need a capital cushion for the same reasons as a commercial bank, real-world central banks have found it difficult to operate with large-scale negative equity, and a variety of emerging markets have recapitalised their central banks for this reason.⁴²

The negative-equity tool would also entail a massive expansion of commercial-bank

³⁹ Central bank liabilities, in a fiat currency system, cannot be redeemed for anything except other forms of the same liability, such as bank reserves for notes and coin. There is no backing in gold, foreign currency or other such asset.

⁴⁰ These calculations draw on forecast outputs from the Quarterly Projection Model.

⁴¹ For a more comprehensive discussion of this option, see W Buiters, 'Can central banks go broke?' *Centre for Economic Policy Research (CEPR) Discussion Paper No. 6827*, especially section 3, London: CEPR, May 2008.
[https://cepr.org/active/publications/discussion_papers/dp.php?dpno=6827#:~:text=Central%20banks%20can%20go%20broke,although%20mainly%20in%20developing%20countries.&text=As%20long%20as%20central%20banks,though%20monetary%20issuance%20\(seigniorage\)](https://cepr.org/active/publications/discussion_papers/dp.php?dpno=6827#:~:text=Central%20banks%20can%20go%20broke,although%20mainly%20in%20developing%20countries.&text=As%20long%20as%20central%20banks,though%20monetary%20issuance%20(seigniorage))

⁴² See examples in P Stella, 'Do central banks need capital?' *IMF Working Paper 1997/83*, Washington, DC: IMF, July 1997. <https://www.imf.org/external/pubs/ft/wp/wp9783.pdf>

balance sheets, reflecting their much larger holdings of central bank reserves. A larger share of bank reserves on banks' balance sheets would crowd out other lending as banks' leverage limits started to bind.⁴³ It would also have financial stability implications if the quality of these assets was perceived as inferior, which is a likely outcome if bank reserves were being created on a scale adequate to satisfy any government financing need. In this case, the central bank would effectively be operating a Ponzi scheme, which investors would rationally avoid by dumping banks' stock. Perceptions of quality would be further affected by South Africa's status as a mid-sized emerging market which does not issue a global reserve currency. For these reasons, while negative equity is a theoretical possibility for central bank financing of the fiscus, it would not be a serious option on a sustained basis.⁴⁴

The fourth and final tool would be economic growth, with QE potentially providing stimulus which leads to a higher output equilibrium. Growth often features as a *deus ex machina* which resolves economic constraints in stimulus strategies, and the complexity of the economy and uncertainty of the outlook are such that this scenario cannot be interrogated as precisely as the others. There are nonetheless two broad reasons to doubt that the economy would achieve self-sustaining growth if only policymakers could deliver an adequately large stimulus package. First, while there was certainly a strong case for temporarily higher levels of emergency spending following the COVID-19 shock, estimated potential growth is low and it is difficult to identify how a demand surge would change this. Indeed, given quality-of-spending concerns in the public sector, raising its share of resources would likely weaken productivity, as it did after the global financial crisis, damaging trend growth.⁴⁵ Second,

⁴³ A Martin, J McAndrews and D Skeie, 'Bank lending in times of large bank reserves', *International Journal of Central Banking*, 12(4), 2016, pp 193–222. <https://www.ijcb.org/journal/ijcb16q4a5.pdf>

⁴⁴ See R Reis, 'Funding quantitative easing to target inflation', *CEPR Discussion Paper No. DP11505*, London: CEPR, September 2016, esp. Section IV. https://personal.lse.ac.uk/reisr/papers/16-jh_qe.pdf; also R Rajan, 'Monetization: Neither game-changer nor catastrophe in abnormal times'. *LinkedIn* webpage, 7 May 2020. https://www.reddit.com/r/IndiaSpeaks/comments/gfo6fv/raghuram_rajan_monetization_neither_game_changer/

⁴⁵ T Janse van Rensburg, S de Jager and K Makrelov, 'Fiscal multipliers in South Africa after the global financial crisis', *SARB Working Paper Series WP/21/07*, Pretoria: SARB, May 2021. <https://www.resbank.co.za/content/dam/sarb/publications/working->

persistently high levels of government dissaving would exert downward pressure on the national saving rate. Given limits on private sector saving capacity, and feasible quantities of foreign saving inflows (the balance of payments constraint), the ultimate effect would probably be to make investment levels much over 15% of GDP unsustainable, given that investment must be funded from some combination of local and offshore saving. Such a low investment rate would preclude sustained growth. For these two reasons, maximising government resource mobilisation through central bank intervention is not a plausible basis for sustained growth.

Overall, QE would weaken government's incentive to consolidate the fiscus, which is problematic given that there are limits to how much central banks can shift budget constraints and because consolidation is important to ensure longer-term growth. Consolidation is clearly very difficult, as evidenced by the repeated fiscal disappointments of the past decade. For this reason, it is important to maintain incentives for consolidation, not seek to suppress them, which is one important objection to QE in the South African context.

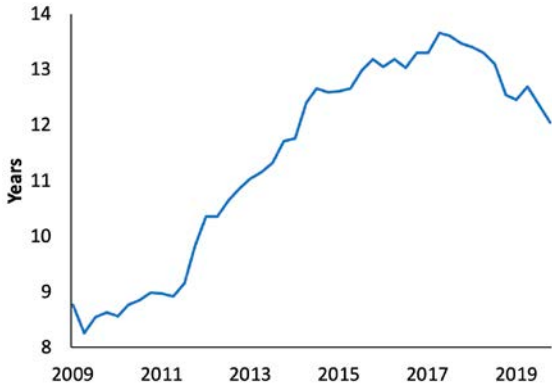
5. The risk problem

A second objection to QE is its implications for government's debt management strategy. From about the middle of the last decade, government pursued a strategy of extending debt maturities, both by issuing more long-dated bonds and by switching out short-dated bonds for longer-dated ones. The average maturity of debt peaked in 2017, at close to 14 years, and remained high at the onset of the COVID-19 crisis, at around 12 years. South Africa stands out today as having the longest debt maturity profile of any major emerging market, and it also has one of the longest debt maturities of any

[papers/2021/WP%202107.pdf](https://www.resbank.co.za/en/home/publications/publication-detail-pages/working-papers/2021/WP%202107.pdf) see also D Faulkner, C Loewald and K Makrelov, 'Time consistency and economic growth: A case study of South African macroeconomic policy', *SARB Working Paper Series WP/20/12*, Pretoria: SARB, November 2020. <https://www.resbank.co.za/en/home/publications/publication-detail-pages/working-papers/2020/102251>; T Janse van Rensburg, D Fowkes and E Visser, 'What happened to the cycle? Reflections on a perennial negative output gap', *SARB Occasional Bulletin of Economic Notes*, Pretoria: SARB, July 2019. Available at: <https://www.resbank.co.za/content/dam/sarb/publications/occasional-bulletin-of-economic-notes/2019/9345/Bulletin.pdf>

major sovereign, with the United Kingdom its main rival.⁴⁶

Figure 1: Average maturity of debt



Source: Bloomberg

This debt strategy reduced the sovereign’s rollover and interest-rate risks, transferring them instead to investors who were compensated with more attractive yields. Given its costs, National Treasury received some criticism for operating such a long-term portfolio, but the COVID-19 shock and South Africa’s simultaneous loss of investment grade status vindicated this decision, as capital flows stopped and bond yields climbed. This left investors with losses and the fiscus in possession of cheaper long-term funds than would have been available from markets. Fortunately, the investors in question were in many cases large financial institutions, including non-resident institutions, which could absorb these costs.

A QE programme by the SARB, however, would have shortened the overall maturity of public debt by taking longer-term bonds back from the private sector and replacing them with short-term sterilisation instruments. In doing so, assuming the SARB’s inflation-control credibility remained intact, bond prices would likely have increased. The effect would have been to bail out bondholders and transfer risk back to the public sector via the central bank balance sheet. This fact may help explain why some

⁴⁶ For quantifications, see G Maia, M Garcia and P Maia, ‘Fiscal space in an era of central bank activism’, *Pontifical Catholic University of Rio de Janeiro Discussion Paper No. 692*, Rio de Janeiro: Pontifícia Universidade Católica do Rio de Janeiro, January 2022. <http://www.econ.puc-rio.br/uploads/adm/trabalhos/files/td692.pdf>

investors publicly and privately urged the SARB to implement QE.

From a public sector perspective, there is not much to be said for surrendering an insurance policy at the moment it pays out. The best case for doing so would be that it might crowd in new lending. But buying up past debt is a relatively inefficient technique for lowering costs on additional borrowing. Fundamentally, the mechanism for lowering yields would be the signal to investors that, while they would enjoy the upside from higher interest rates on longer-term debt, they would have the option to shift the downside back to the central bank (and therefore the public sector) if risks manifested and bond prices fell. The point of the initial QE operation would be establishing the credibility of this 'put' option.

Investors, however, should not be paid to take risk if those risks will be re-nationalised in a crisis. Providing this option would therefore reduce bond yields only by subtracting much of the attractiveness of long-term bonds, from the perspective of the borrower, which is the safety they confer from future interest rate movements.

Meanwhile, in providing this put option the central bank would not eliminate risk; it would only relocate it. The balancing item responsible for the reductions in risk premia on long bonds would be the central bank's own portfolio of bonds and the implicit put option, and this would be where losses would be concentrated in adverse scenarios.

Of course, this risk-taking would not necessarily lead to losses, just as any financial investment in risky assets can be profitable. (Some hedge funds bought South African government bonds during the early months of the COVID-19 shock for this reason.⁴⁷) However, for the central bank to take on this gamble would increase the overall fragility of the system. This is because central bank intervention would reduce the odds of fiscal consolidation (the moral hazard argument above). It would also magnify losses in periods of fiscal stress, when bond prices declined, and it would pay off when things

⁴⁷ For instance, see S Gokoluk, 'Successful London hedge fund bets big on SA government bonds', *Business Day*, 13 May 2020. <https://www.businesslive.co.za/bd/economy/2020-05-13-successful-london-hedge-fund-bets-big-on-sa-government-bonds/>

were improving. As such, it would be a ‘doubling-down’ strategy – the opposite of a hedge.

The ultimate danger would be if a bond purchase programme led to a large central bank balance sheet expansion, with the effort to suppress yields requiring extensive purchases and the central bank having no clear escape route. In this scenario, purchases might well overshoot tolerable limits, before finally being abandoned as a hopeless cause, triggering a sharp decline in bond prices and crystallising central bank losses.

The failure cascade would start with the central bank buying bonds to cap or lower yields. With the government no longer having incentives to consolidate spending, the bond supply would expand and the probability of long-run debt sustainability would fall. Wary investors would exit their positions by selling to the central bank, and the central bank would become the dominant source of demand for bonds. Continued bond-buying would then become hard to defend, and the central bank would likely seek an escape route. However, if it stopped buying bonds its own holdings would collapse in value, triggering losses and pushing up market rates, likely forcing an abrupt fiscal consolidation. In a sense this would resemble the recent Lebanese debacle, in which the central bank pursued an unsustainable course hoping something would come along and save the situation, but in doing so created vulnerabilities that ultimately produced a massive crisis.⁴⁸ Not every bond-buying operation would have to end this way, of course, but it is a plausible equilibrium for a market where a government issues risky debt and the central bank intervenes to remove risk premia from bond prices. QE is fundamentally a risky business.

6. The argument from equivalence

A third objection to QE is that its main positive effects can be replicated by the fiscal

⁴⁸ Perhaps the third worst such crisis since the 1850s. See World Bank, ‘Lebanon sinking (to the top 3)’, *Lebanon Economic Monitor*, Spring 2021. <https://documents1.worldbank.org/curated/en/394741622469174252/pdf/Lebanon-Economic-Monitor-Lebanon-Sinking-to-the-Top-3.pdf>

authorities, operating independently. When a central bank conducts a sterilised QE intervention, the private sector ends up holding short-term debt, issued by the central bank, and government bonds move to the central bank balance sheet.⁴⁹ Much the same outcome can be achieved with the fiscal authority simply issuing its own short-term debt, instead of long-term debt.⁵⁰ In both cases, the public sector borrows spending power from the private sector using a short-term debt obligation. The clearest difference is the identity of the issuer, but Treasury bills and central bank liabilities are comparable assets. Indeed, one objection to QE in this form is that central banks might compete with the fiscal authorities by issuing overlapping securities at the short end of the yield curve.

This equivalence theory is also borne out in recent South African practice. Since the onset of the COVID-19 crisis, short-term rates have fallen to record lows but long-term rates have stayed elevated. The R2030 10-year bond yielded 9.4% in October 2020, for example, while the repo rate was at an all-time low of 3.5%. National Treasury responded to these incentives rationally, reducing longer-term issuance and drawing more funding from the short end of the yield curve. These tactics reduced government's effective interest rate, despite the fiscal deterioration and concomitant rise in long-term interest rates, such that government borrowing costs averaged around 6% from the onset of the pandemic, below pre-crisis levels. (This estimate counts its total new issuance of rand-denominated bonds and bills, but not loans from multilaterals or other sources of funding.⁵¹) This borrowing cost is significantly lower than the 9% assumption used in the report of the Presidential Economic Advisory Council.⁵² Such

⁴⁹ S Cecchetti and K Schoenholtz, 'A primer on helicopter money', *VoxEU* blog, 19 August 2016. <https://voxeu.org/article/primer-helicopter-money>

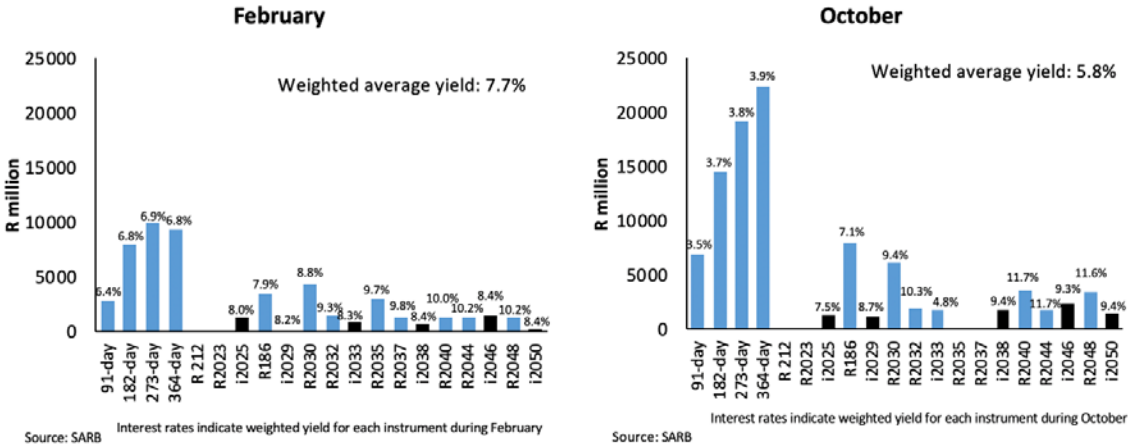
⁵⁰ As Claudio Borio and Anna Zabai have pointed out, "Almost any balance sheet policy can, or could be, replicated by the government; conversely, any balance sheet policy has an impact on the consolidated government sector balance sheet." C Borio and A Zabai 'Unconventional monetary policies: a re-appraisal', *BIS Working Papers No 570*, p 33, Basel: BIS, July 2016. <https://www.bis.org/publ/work570.pdf>

⁵¹ Thanks to Susan Knox for preparing these calculations.

⁵² Presidential Economic Advisory Council, 'Briefing notes for key policy questions for SA's economic recovery', pp 16–17, Mark Swilling blog, 15 October 2020. <https://www.markswilling.co.za/2020/10/briefing-notes-on-key-policy-questions-for-sas-economic-recovery/>; the underlying study is P Burger, 'South Africa's debt: Has the budget overpromised?' *Centre for Development and Enterprise Viewpoints* webpage, 11 August 2020.

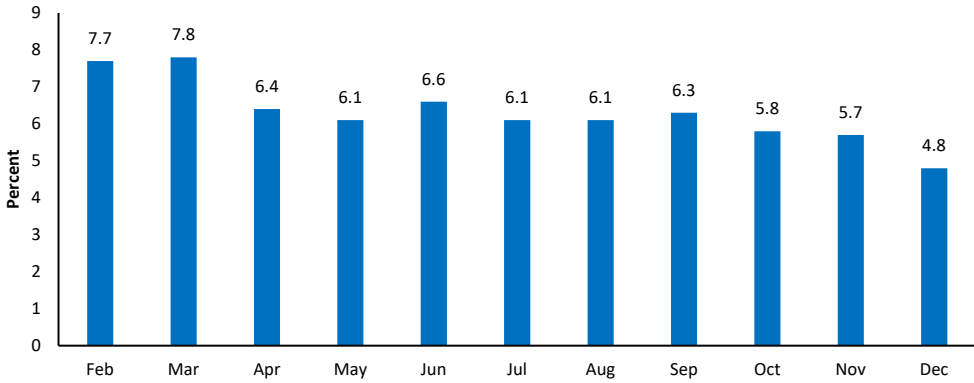
relatively cheap borrowing was possible precisely because the SARB set the repo rate at low levels, which depressed short-term rates: the one-year Treasury bill, for instance, yielded 3.9% during October 2020.

Figure 2: Borrowing costs across the yield curve



Source: SARB

Figure 3: Weighted average yield



Source: SARB

Had the SARB embarked on a QE programme, with the result that government borrowing costs declined to less than 6%, and inflation remained very subdued, QE proponents and others would probably have interpreted this as a policy success. That this has happened without QE demonstrates the theoretical point already established,

that central bank balance sheet operations can be replicated by the fiscal authorities. Put more simply, National Treasury made its own QE.⁵³

This experience also sheds light on why short-term rates are powerful and why central banks have typically relied on these instead of other tools, such as long-term rates, for achieving their monetary policy goals. The first reason, as Jeremy Stein has noted in a different context, is that the interest rate tool “gets in all of the cracks”.⁵⁴ It provides opportunities for government to lower its borrowing costs, as QE does, but it also improves borrowing conditions for private sector players, reducing debt-service costs and incentivising new borrowing.⁵⁵ While some QE advocates have argued that in the context of COVID-19 government spending is the “only player in town”,⁵⁶ it is misleading to imply that private sector activity fell to zero anywhere, even temporarily. Lower policy rates benefitted governments but they also benefitted firms and households, through lower debt-service costs and more attractive rates on new borrowing. In South Africa, for instance, household debt-service costs fell to their lowest levels since 2006, relative to incomes, while some credit categories, especially residential mortgages, saw strong demand despite the pandemic shock – both dynamics that reflected a lower repo rate but which would not have been achieved through QE, given how private-sector debt is largely indexed to the repo rate and not long-term rates.

⁵³ National Treasury has subsequently reduced Treasury bill auctions due to an excess of cash on hand, given unexpectedly strong tax revenues and bond auction take-up. Obviously it is not necessary to raise short-term cash while existing cash balances are unusually elevated.

⁵⁴ J C Stein, ‘Overheating in credit markets: Origins, measurement and policy responses’. Speech by Governor Jeremy C Stein at the *Restoring Household Financial Stability after the Great Recession: Why Household Balance Sheets Matter* research symposium, 7 February 2013. <https://www.federalreserve.gov/newsevents/speech/stein20130207a.htm>

⁵⁵ This also suggests QE will be a fairly weak tool when used in addition to zero interest rates. In Eugene Fama’s memorable formulation, “...the central banks don’t do anything real. They are issuing one form of debt to buy another form of debt. [It] is like pornography: In essence, it’s just entertainment and it doesn’t have any real effects.” This may help explain why QE programmes have failed to return inflation to target (for instance in the euro area, the United States and in Japan), despite the impressive sums involved. Quoted in C Gisiger, ‘Inflation is totally out of the control of central banks’, *The Market* webpage, 10 August 2020. <https://themarket.ch/english/inflation-is-totally-out-of-the-control-of-central-banks-Id.2476>

⁵⁶ Sri Mulyani Indrawati, Indonesia’s finance minister, quoted in S Palma, ‘Jakarta to use QE for as long as needed to tackle pandemic’. *Financial Times*, 15 June 2020. <https://www.ft.com/content/9420eee8-5ee9-4c7e-ad67-b27d4b1ac539>

The second, related, advantage of the conventional short-rate tool is that while a central bank is only one player in the government bond curve, it is the dominant player in the interbank market, as it is the only organisation capable of changing the overall supply of bank reserves.⁵⁷ In ‘going long’, central banks abandon their monopoly position, becoming just one of many institutions trading government bonds and similar assets. In this realm, their power mainly consists of sending signals about future short-term rates, or adjusting the composition of assets available in the market.⁵⁸ Neither contribution is as game-changing as actually moving short-term rates. For this reason, while central banks at the zero lower bound have a clear need to use other tools, such as QE, these tools are weaker than conventional short-term rate adjustments, and the zero lower bound should therefore be interpreted as a handicap for the central bank, even if it does not render monetary policy powerless.⁵⁹

7. Further research: the problem of liquidity interventions

During the onset of COVID-19 crisis, the SARB avoided full-blown QE and left yields to market forces. It nonetheless bought limited quantities of bonds to ensure that the bond market could function and form prices. These bond purchases took place in the context of a major global shock, with even the US Treasury market showing signs of disruption.⁶⁰ It appears this policy was successful, given indicators of reduced stress such as smaller bid-offer spreads. Better market functioning also crowded in investors,

⁵⁷ D King and T Mancini-Griffoli, ‘Monetary operations’, in *Advancing the frontiers of monetary policy*, edited by T Adrian, D Laxton and M Obstfeld, 2018, pp 53–68, Washington, DC: International Monetary Fund.

⁵⁸ B S Bernanke, ‘The new tools of monetary policy’. 2020 American Economic Association Presidential Address by Ben Bernanke, 4 January 2020. <https://www.brookings.edu/blog/ben-bernanke/2020/01/04/the-new-tools-of-monetary-policy/>

⁵⁹ P Burriel and A Galesi, ‘Uncovering the heterogenous effects of ECB unconventional monetary policies across euro area countries’. *European Economic Review* 101, 2017, pp 210–229 esp. p 223. https://cepr.org/sites/default/files/40021_Galesi_1-s2.0-S0014292117301873-main.pdf; H Chung, J-P Laforde, D Reifschneider and J C Williams, (2011, January) ‘Have we underestimated the likelihood and severity of zero lower bound events?’ *Federal Reserve Bank of San Francisco Working Paper 2011-01*, San Francisco: Federal Reserve Bank of San Francisco, January 2011. <https://www.frbsf.org/economic-research/files/wp11-01bk.pdf>

⁶⁰ J Cheng, D Wessel and J Younger, ‘How did COVID-19 disrupt the market for US Treasury debt?’. *The Brookings Institution* website, 1 May 2020. <https://www.brookings.edu/blog/up-front/2020/05/01/how-did-covid-19-disrupt-the-market-for-u-s-treasury-debt/>

which reduced yields. However, it is not clear if the SARB should always be willing to intervene to ensure liquidity.

This commitment would come with three disadvantages. First, were the fiscal situation to deteriorate further, at some point debt auctions might fail due to fundamental doubts about the sovereign's creditworthiness. Facing a crisis of solvency, rather than simply a shortage of liquidity, markets might rationally withhold funding and the central bank would then be unable to restore market functioning simply by purchasing moderate quantities of bonds. In this scenario, rather than restarting the market, the SARB would risk becoming the market.

Second, on similar lines, it is conceivable that the market could dislocate due to some news shock, perhaps along the lines of the 'Nenegate' episode of late 2015.⁶¹ In this case, central bank intervention might blunt an important feedback mechanism – either by attenuating market feedback, or by lining up the SARB as a scapegoat on the grounds that it should have prevented price movements.

Third, it might also be impossible to issue enough sterilisation instruments to absorb the rands created for liquidity interventions, which would compromise monetary policy transmission. With time, it is plausible that a better sterilisation strategy could absorb even a large increase in liquidity. Paying interest on excess reserves, for instance, would absorb liquidity in an automatic and relatively robust way, which would address this objection. It is nonetheless a severe practical constraint for a shortage-based system of monetary policy implementation.

A particularly interesting version of liquidity-intervention problem would occur if government was to run into trouble issuing short-term debt. Normal monetary policy implementation already entails setting a short-term interest rate, so markets do not play a decisive role in price determination. In this context, central bank interventions to

⁶¹ The incumbent finance minister, Nhlanhla Nene was abruptly removed and replaced by a little-known backbencher

ensure liquidity could be defended as securing monetary policy transmission,⁶² a characterisation less obviously valid for the longer-term bond market.

From the perspective of government, the standard motivations for financing with long-term instruments are that this reduces interest rate risk and rollover risk. Given the current steepness of the South African yield curve, however, it is unlikely that short-rates could rise so much as to make existing long-term rates the cheaper option. If the SARB was ensuring liquidity at short tenors, this would also minimise rollover risk. The case for government funding itself with a larger proportion of short-term debt might therefore be stronger.

This funding strategy would have the additional advantages of lowering government's borrowing costs without bailing out previous investors – as it would only affect new debt – and it would maintain incentives for government to stabilise debt over the medium term, as short-term rates normalise, with government confronting those costs directly.

At the same time, however, this would link government's borrowing costs more closely to the decisions of the MPC, which might create a more difficult environment for interest rate increases in future, and with it, perhaps, additional threats to central bank independence. Such interventions would also have the disadvantages described above for general bond market liquidity interventions. Perhaps more fundamentally, the analysis above suggests that at least part of the QE debate is more properly an argument about the optimal maturity of government debt, with the term QE operating as a new and provocative label for what is really an older and more mundane economic problem.

⁶² For a discussion of this point, and a broader analysis of central bank interventions in financial markets, see Darryl King, Luis Brandao-Marques, Kelly Eckhold, Peter Lindner and Diarmuid Murphy (2017, July) 'Central bank emergency support to securities markets' *IMF Working Paper*. 17/152. Available at: <https://www.imf.org/en/Publications/WP/Issues/2017/07/10/Central-Bank-Emergency-Support-to-Securities-Markets-45012>.

8. Conclusion

South Africa is an emerging market with robust monetary policy credibility but difficult fiscal dynamics. It might therefore seem like a prime candidate for QE, given expanded use of this policy in the emerging market sphere. However, as this paper has argued, there are three reasons to avoid a large-scale programme of government debt purchases, even if price stability is secure. First, it would create moral hazard, removing the incentive to implement fiscal consolidation without removing the need to consolidate. Second, assuming it were a programme of secondary-market purchases, QE would transfer risk back to the public sector from existing investors who were paid generous premia to hold long-term debt. Third, it would be preferable to rely on the repo rate tool for stimulus, so long as this is not constrained by the zero lower bound. With a lower repo rate, government can replicate the effects of QE and lower its borrowing costs by issuing more short-term debt, something National Treasury has been doing. In sum, the SARB's COVID-19 strategy of cutting the repo rate to record lows, and buying bonds only as needed to ensure market functioning, appears to have achieved many of the benefits of QE without the risks. It should therefore be interpreted as a superior strategy. Looking forward, it would be more useful to debate the proper extent of central bank liquidity interventions, rather than QE-style asset purchases, given the demonstrated usefulness of liquidity interventions but also their potential pitfalls.