# NZ Insight: What now for the LSAP portfolio?

17 November 2021



This is not personal advice nor financial advice about any product or service. It does not take into account your financial situation or goals. Please refer to the Important Notice.



#### Summary

In this paper we outline our thoughts on the Reserve Bank's (RBNZ) next steps in relation to their Large Scale Asset Purchase (LSAP) portfolio. Bond purchases ceased in July, but the bonds purchased have maturity dates going out as far as 2041. While the time-frames are very long, this portfolio will need to be managed, and how that is done is important to financial markets.

In August, the Monetary Policy Committee (MPC) directed staff to come up with an operational strategy to manage the LSAP portfolio. We expect the next step to be the publication of a broad-based "principles" document. We expect this to outline the order in which unconventional policy will be unwound, and how that will occur. The key issue for financial markets will be whether the RBNZ intends to sell down its bonds, let them mature, or partially reinvest the proceeds. For a variety of reasons, the risks look skewed towards combinations of the latter, and that's likely to place less stress on the bond market going forward than a sell-down.

Unwinding the LSAP portfolio will have to be done in a flexible and pragmatic manner, with decisions dependent on how the economy and bond markets evolve. These are unknowns at this point, and as such we are not expecting any firm commitments until late 2022 or early 2023. We don't think the LSAP portfolio will be a permanent feature of the markets landscape, but it could be with us for some time, with the global experience suggesting that getting out of QE gracefully is a lot harder than getting in. Unwinding QE (known as Quantitative Tightening – or colloquially, "QT") tightens financial conditions, all else equal, and may thereby also reduce how high the OCR needs to go.

#### Background

The RBNZ embarked on QE for the first time on 23 March 2020, doubling down on its decision a week earlier to cut the OCR from 1.00% to its (then) effective lower bound of 0.25% as New Zealand was plunged into a hitherto unheard-of lockdown. The objective of QE (the Large Scale Asset Purchase – or LSAP – programme) was to put downward pressure on long-term interest rates at a time when the required (huge) fiscal response would likely have done the opposite. QE helped ease financial conditions, made it easier for the Treasury to issue bonds, likely kept the exchange rate lower than it might have been otherwise, and importantly, added significant liquidity to the banking system. For more background information on QE and the LSAP, please see earlier papers on Unconventional Monetary Policy, here.

Purchases conducted under the LSAP programme have left the RBNZ with around \$55bn of bonds on its balance sheet. In our view, these are bonds that it would ideally not own. During the course of its everyday interaction with financial markets and the banking system, the RBNZ will inevitably find itself owning bonds and other securities as collateral, as part of its open market operations, or to help facilitate a repo market. But in a "proper" functioning financial system, no central bank would ideally be a long-term holder of government bonds, or find itself financing the government directly or indirectly. That's one of the key pillars of monetary stability.

However, given the size and term of the bond portfolio, running it down isn't something that can be done quickly. It will take time, and in this paper, we lay out our thoughts on how that process might unfold.



### Putting things in order, with lessons from the Federal Reserve

Without knowing what the future holds – in terms of how the economy is tracking or how well bond markets are functioning – it would be unwise for the RBNZ to make decisions now (or at any time significantly before 2023) about exactly what it might do with its LSAP portfolio. That's because the maturity profile of the portfolio is lumpy (Figure 1), with large maturities of both government bonds (NZGBs) and Local Government Funding Agency (LGFA) bonds on 15 discrete days over the next 20 years.

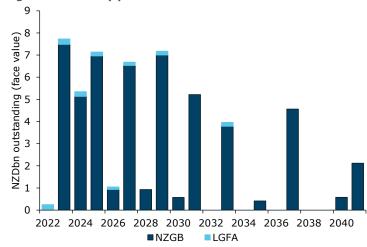


Figure 1. Maturity profile of RBNZ LSAP Portfolio

Source: RBNZ, Bloomberg, ANZ Research

Ahead of, or as we approach, these dates, we would expect the RBNZ to be in a better position to judge whether it will let individual bond holdings mature without being (partly or fully) reinvested, or sold beforehand. Because these decisions will have implications for markets and Crown finances as they occur, the RBNZ isn't well positioned to make specific decisions now.

The next major tranche of bonds doesn't mature until 2023, when \$7.7bn of bonds mature (Figure 1). Technically that means there is no urgency for the RBNZ to outline its thoughts until late 2022 or early 2023. But having been directed by the Monetary Policy Committee (MPC) to come up with an operational strategy, at a minimum we expect the RBNZ to outline its guiding principles. That may also include detail on how it envisages running down the QE portfolio. In an earlier paper on the topic, we surmised that the RBNZ would take a lead from the US Federal Reserve (the "Fed"), and follow these broad steps into and out of QE:

- 1. Cut OCR
- 2. Introduce and conduct LSAP
- 3. Taper LSAP purchases
- 4. Outline normalisation principles
- 5. Cease LSAP purchases
- 6. Hike OCR
- 7. Allow LSAP portfolio to be run down

We are now well through that list, having reached #6. But step #4 has been skipped, and that's the step that is the focus of this paper. Deferring that step wasn't a big deal for markets or the economy, but it was a deviation from the path taken by the Fed in 2013 and 2014. Nonetheless, looking ahead, we expect the RBNZ to draw from the Fed's principles – in particular, those published in its 2014 principles paper.



That paper made it clear that the Fed's QE portfolio would not start being run down until after it had started hiking rates. That's a moot point for the RBNZ, who have already started raising rates, but have not taken steps to reduce the size of the LSAP portfolio. The other key aspects of the Fed paper were:

- a commitment not to sell agency or mortgage-backed bonds (ie the nongovernment bond part of its portfolio);
- an intention to "hold no more securities than necessary to implement monetary policy efficiently and effectively";
- a commitment to hold only government bonds to "minimize the effect of Federal Reserve holdings on the allocation of credit across sectors of the economy"; and
- a preparedness to be flexible, in light of economic and financial developments.

We think all of these aspects have a role to play in the New Zealand context. Rolling them together, they point to the RBNZ potentially outlining the following broad guiding principles as it looks to unwind QE, and embark on QT:

- 1. In the long run, the RBNZ will not be a habitual holder of bonds.
- 2. It will not sell down its LGFA bonds, but if any reinvestment of maturities is deemed necessary, to potentially reinvest that only in NZGBs.
- 3. It will be flexible in its approach to running down the portfolio.

These are just guiding principles. They wouldn't commit the RBNZ to anything, but they would reiterate to the public that the RBNZ's motivation for entering the bond market was to stimulate the economy and to assist market functioning, rather than to finance the government. That's an important signal to send, as it would clarify that QE was temporary, and that the money that was "printed" will eventually leave the financial system, and not be some sort of permanent piece of trickery.

Returning to the US experience, in 2017, the Fed modified its principles. By then it felt it was in a position to be clearer about how it would begin to run down its securities portfolio. It opted for an approach that employed caps that dictated the maximum value of bonds that would be allowed to roll off each month. Importantly, the Fed did not proactively sell bonds. The run-off rate was dictated by the maturity profile, subject to caps.

The Fed's caps started out small, and grew over a 12-month period, eventually reaching \$30bn per month for government bonds and \$20bn per month for agency and mortgage-backed securities. What that meant was that if, for example, \$35bn of government bonds matured in a particular month, then only \$5bn of them would be reinvested (across the maturity spectrum). This was a simple, intuitive and predictable way to smooth the rundown of the portfolio. Once this process was underway, it effectively went into auto-pilot.

There were two key elements to the simplicity and success of the Fed's approach. The first was the sheer number of bonds in the Fed's portfolio. As at June 2017, when the Fed's principles were amended, it held 255 different government bonds with maturity dates out to 30 years that were spread no more than 1 month apart out to around 5 years, and around 3 months apart out to 10 years. Its holdings were weighted towards shorter bonds. It also held a large number of agency and mortgage-backed bonds. What that meant was that unlike the RBNZ, the Fed didn't have to deal with a lumpy, discrete roll-off profile. And to put those caps into context, the total value of the Fed's portfolio stood at \$4.2 trillion at the time.



As an aside, the Fed's QE portfolio is now almost double that, at around \$8.1 trillion. That isn't directly relevant to this paper, but what it does demonstrate is that once you start QE, it can be hard to get out. Taking a softly, softly approach on the way out reduces the chances of causing volatility, but increases the odds that you won't have unwound QE before the next crisis comes along. The experience of the Fed and others in the post-GFC, pre-COVID period is a key learning in that regard. We don't expect QE to be a permanent feature of the economic and financial landscape, but realistically, it could take longer than is desirable to exit it. Life keeps happening.

In any case, we don't think the RBNZ will follow exactly the same approach as the Fed. The main reason for this is that the RBNZ's holdings are much lumpier. An obvious way to counter this would be for the RBNZ to start selling down a portion of each bond as it approaches maturity. We know, for example, that the RBNZ owns almost \$8bn of bonds maturing on 15 April 2023 (the next major maturity date). It could, for example, sell \$1bn of bonds per month starting 8 months earlier. These would presumably be sold to the Treasury (as implied by the Crown indemnity), so wouldn't impact financial markets directly, or alter the amount of cash in the banking system (the settlement cash level, or SCL). But it could only be done in cooperation with the Treasury.

Alternatively, the RBNZ could elect to purchase a series of shorter maturity assets like Treasury bills (T-bills) on 15 April 2023, with maturities spread out over, say, a 12-month period, so as to stagger the impact. Again, this would be best coordinated with the Treasury because (a) otherwise there may not be enough T-bills with the desired maturity dates available, and (b) so that the impact on SCL (and thus short-term interest rates) is smoothed (or minimised, depending on economic and financial conditions at the time).

The impact that the run-off of QE will have on SCL will almost certainly be a consideration, and it is an important determinant of short-end interest rates. But because it is the collective actions of the Treasury and the RBNZ (and not just the actions of the RBNZ on its own) that impact the level of SCL, coordination would be desirable.

#### What have other central banks said or done?

It's not just the Fed who have had to tackle an exit from QE. So too have others, including the Bank of England (BoE). Back in August, they took a different tack again. Instead of taking a smoothed approach dictated by the maturity profile of the portfolio like the Fed did, they have elected to be guided by where the cash rate is. They also envisage actually selling bonds, which is a more aggressive approach to running down its portfolio.

Specifically, the BoE has said that it "intends to begin to reduce the stock of purchased assets, by ceasing to reinvest maturing UK government bonds, when Bank Rate has risen to 0.5% and if appropriate given the economic circumstances". It then went on to say that "that level of Bank Rate is lower than the MPC's previous assessment of the threshold for reducing the stock of purchased assets, which was previously 1.5%. In part that reflects the MPC's judgement that setting a negative Bank Rate is now part of its monetary policy toolkit, as well as its view that the impact of reducing the stock of purchased assets on monetary conditions is likely to be smaller than that of asset purchases on average over the past." There are clear parallels here, now that New Zealand is ready for a negative OCR. Also note the final part of the first statement, which gives them an out if things don't go to plan.



With regard to selling bonds, the BoE stated that "the MPC envisages beginning the process of actively selling assets later, and will consider it only once Bank Rate has risen to at least 1%, depending on economic circumstances at the time". It goes on to say that "any asset sales will be conducted in a predictable manner over a period of time so as not to disrupt the functioning of financial markets", and that "the MPC will of course monitor the impact of the reduction in the stock of purchased assets, and may amend or reverse the process if needed to meet its 2% inflation target. Decisions on Bank Rate will be based on the economic circumstances at the time, and will take into account the impact of the intended profile for the stock of purchased assets on overall monetary conditions". It concludes with the comment that "while the MPC will monitor the reduction in the stock of purchased assets on a continual basis, it also intends to review its parameters no later than two years after the process begins".

In the RBNZ's letter requesting a Crown indemnity in relation to LSAP purchases, Governor Orr notes that "I also request that the LSAP programme remain in place until the bonds held in the programme mature or the MPC decide to end the programme, at which point the Bank would be required to sell the bonds to the Treasury". We read that to mean that the RBNZ can only sell bonds to the Treasury, and not into the open market. That further reinforces the likelihood of a co-ordinated Treasury and RBNZ approach to running down the QE portfolio.

#### Gross versus net

It is also worth noting that government bonds acquired via QE will largely affect gross government debt, with only small impacts on net core Crown debt. That's because at a consolidated level, bonds held by the central bank are an asset, offsetting the government's liability. That said, QE does increase the Crown account's exposure to changes in interest rates (as the cash liability is marked at floating, while the asset is fixed at the prevailing rate when the bond was issued). Further, the difference between the book value and market value of bonds has seen net debt slightly higher than otherwise initially, but this will unwind over time as lower interest expenses are paid over the lifetime of the bond. This is more of a timing issue and the result of accounting treatment, opposed to something that affects debt issuance (ie Government funding) requirements. Looking forward, the Government's core debt metric within its fiscal strategy can certainly be amended in the future to "look through" the impacts of unconventional monetary policy.

That being the case, if a government relied on QE to fund itself, net debt figures might mask the true state of government finances, presuming that the QE will one day be unwound. Thankfully, in New Zealand, this was not the case.

Indeed, while New Zealand's QE programme was large in relation to the size of the economy, the Crown has actually saved a good chunk of the money that it borrowed. Part of this was deliberate (part of NZDM's strategy), stemming from a desire to have enough cash on hand should large and unexpected Government payments be required (which was the case, in the form of Delta). But part of it was good fortune, owing to the more rapid economic rebound than expected.

Whatever the cause, what we know is that at the end of October, NZDM had around \$37.5bn of cash on deposit at the RBNZ (parked in the Crown Settlement Account). We know that the Treasury wants to maintain a larger cash buffer going forward (it had to call on a RBNZ overdraft in 2020 when COVID hit). They have not specified how much larger this will be, but technically, if the RBNZ asked it to buy back a large chunk (eg \$10-20bn) of



the \$55bn bonds acquired via QE, the Treasury could do so without needing to borrow more money, or raise revenue. Such a transaction would have no significant impacts on markets, or the SCL; it would just be an accounting entry.

Clearly it's not realistic to expect the Treasury to spend all of the cash it has on hand to help out the RBNZ, but it does illustrate the flexibility. More likely, Treasury might be targeting perhaps a \$30bn cash buffer, in which case it has \$7.5bn of capacity to help the RBNZ run down its QE portfolio. This is important, as it's the sum of these moving parts that will determine the trajectory of SCL, and by association, the impact the run-down of the QE portfolio will have on short-end interest rates.

#### Wrapping it all up

The rationale for QT is well known and understood, and we expect the RBNZ to underscore that when it lays out its guiding principles. Central banks should not be relied on to fund governments, and QT needs to follow QE.

We expect an orderly unwind of the LSAP portfolio. That said, the international experience is that getting out is harder than getting in, and we expect the same sorts of challenges here. RBNZ documents indicate that selling down bonds is unlikely (unless to the Treasury), and that bonds will be held to maturity. That will then leave the onus on the RBNZ to come up with a plan that allows the portfolio to run off as it matures, albeit with some smoothing via the staggered sale of bonds in the lead-up to maturities, or via reinvestment in shorter-dated assets around bond maturities, or both. Either way, when it comes down to the "how", we expect the RBNZ to work closely with the Treasury when formulating a plan. Smoothing may not even be required if the Treasury has enough cash on hand to repay the RBNZ as particular maturities arise (as might be the case with the upcoming 15 April 2023 maturity date).

The RBNZ may also want to set some broad parameters like the BoE did, and state at what levels of the OCR it will let the portfolio be run down. It may also follow the BoE's lead, highlight that now that it is ready for negative interest rates, it'd prefer to have a smaller QE portfolio. As things stand, the RBNZ has not suggested the possibility of selling bonds into the open market, so its exit speed depends on the state of Crown finances (because the Treasury would have to purchase any bonds back) or the maturity profile, which extends to 2041.

Given the likelihood and benefit of working with the Treasury (which was a key expectation of the LSAP when it was agreed to by the Finance Minister), and the lumpy nature of maturities, we doubt the RBNZ will try to develop an "auto-pilot" approach like the Fed. We think it makes more sense for it to communicate to the public and markets how it intends to approach each maturity well in advance (perhaps 6-12 months). Without knowing how well markets are functioning, how Crown finances or the economy are tracking, we see little point in pre-committing to a particular run-down rate, and instead expect flexibility and pragmatism.

It should also be noted that if the RBNZ decides to go down the road of allowing its bonds to simply roll off, this will have little bearing on NZDM's funding needs into the future. That's because NZDM's issuance projections already incorporate the need to repay all maturing bonds, whether they are held by the public or by the RBNZ. But if the RBNZ does elect to partially or fully roll over its holdings at each maturity date, it will reduce the refinancing burden that would otherwise fall on the market.



Similarly, the impact that unwinding QE will have on SCL will depend not just on how many bonds the RBNZ elects to roll off or sell, but also on how much cash the Treasury is sitting on, how much it wants to keep on reserve as a buffer, and how much needs to be funded via taxes or borrowing.

We think it will mostly be a smooth ride, but it could get bumpy at times, and it will almost certainly be harder to pull off than embarking on QE was in the first place. QE was only supposed to be temporary and as it morphs into QT, that will bring with it a reduction in liquidity. As we have stated in earlier research, it is akin to the "printed money" being "burnt". It is not clear what impact QT will have on the economy, but historic international experience and logic suggest that it will have a negative impact on growth, and that could temper the need (or the ability) for the OCR to go higher. In essence, QT could see longer-term interest rates rise (which affect business and the government more), leaving less room for short-term interest rates (which affect households more) to rise.



## Contact us

#### Meet the team

We welcome your questions and feedback. Click here for more information about our team.



Sharon Zollner Chief Economist Follow Sharon on Twitter @sharon\_zollner

Telephone: +64 27 664 3554 Email: sharon.zollner@anz.com General enquiries: research@anz.com

Follow ANZ Research (global)



**David Croy** Senior Strategist

Market developments, interest rates, FX, unconventional monetary policy, liaison with market participants.

Telephone: +64 4 576 1022 Email: david.croy@anz.com



**Susan Kilsby** Agricultural Economist

Primary industry developments and outlook, structural change and regulation, liaison with industry.

Telephone: +64 21 633 469 Email: susan.kilsby@anz.com



**Miles Workman** Senior Economist

Macroeconomic forecast coordinator, fiscal policy, economic risk assessment and credit developments.

Telephone: +64 21 661 792 Email: miles.workman@anz.com



**Finn Robinson** Economist

Macroeconomic forecasting, economic developments, labour market dynamics, inflation and monetary policy.

Telephone: +64 21 629 553 Email: finn.robinson@anz.com



**Kyle Uerata** Economic Statistician

Economic statistics, ANZ proprietary data (including ANZ Business Outlook), data capability and infrastructure.

Telephone: +64 21 633 894 Email: kyle.uerata@anz.com



**Natalie Denne** PA / Desktop Publisher

Business management, general enquiries, mailing lists, publications, chief economist's diary.

Telephone: +64 21 253 6808 Email: natalie.denne@anz.com



## Important notice

Last updated: 15 October 2021

This document is intended for ANZ's Institutional, Markets and Private Banking clients. It should not be forwarded, copied or distributed. The opinions and research contained in this document are (a) not personal advice nor financial advice about any product or service; (b) provided for information only; and (c) intended to be general in nature and does not take into account your financial situation or goals.

This document may be restricted by law in certain jurisdictions. Persons who receive this document must inform themselves about and observe all relevant restrictions.

**Disclaimer for all jurisdictions:** This document is prepared and distributed in your country/region by either: Australia and New Zealand Banking Group Limited (ABN11 005 357 522) (**ANZ**); or its relevant subsidiary or branch (each, an **Affiliate**), as appropriate or as set out below

This document is distributed on the basis that it is only for the information of the specified recipient or permitted user of the relevant website (**recipients**).

This document is solely for informational purposes and nothing contained within is intended to be an invitation, solicitation or offer by ANZ to sell, or buy, receive or provide any product or service, or to participate in a particular trading strategy.

Distribution of this document to you is only as may be permissible by the laws of your jurisdiction, and is not directed to or intended for distribution or use by recipients resident or located in jurisdictions where its use or distribution would be contrary to those laws or regulations, or in jurisdictions where ANZ would be subject to additional licensing or registration requirements. Further, the products and services mentioned in this document may not be available in all countries.

ANZ in no way provides any financial, legal, taxation or investment advice to you in connection with any product or service discussed in this document. Before making any investment decision, recipients should seek independent financial, legal, tax and other relevant advice having regard to their particular circumstances.

Whilst care has been taken in the preparation of this document and the information contained within is believed to be accurate, ANZ does not represent or warrant the accuracy or completeness of the information Further, ANZ does not accept any responsibility to inform you of any matter that subsequently comes to its notice, which may affect the accuracy of the information in this document.

Preparation of this document and the opinions expressed in it may involve material elements of subjective judgement and analysis. Unless specifically stated otherwise: they are current on the date of this document and are subject to change without notice; and, all price information is indicative only. Any opinions expressed in this document are subject to change at any time without notice.

ANZ does not guarantee the performance of any product mentioned in this document. All investments entail a risk and may result in both profits and losses. Past performance is not necessarily an indicator of future performance. The products and services described in this document may not be suitable for all investors, and transacting in these products or services may be considered risky.

ANZ expressly disclaims any responsibility and shall not be liable for any loss, damage, claim, liability, proceedings, cost or expense (Liability) arising directly or indirectly and whether in tort (including negligence), contract, equity or otherwise out of or in connection with this document to the extent permissible under relevant law. Please note, the contents of this document have not been reviewed by any regulatory body or authority in any jurisdiction.

ANZ and its Affiliates may have an interest in the subject matter of this document. They may receive fees from customers for dealing in the products or services described in this document, and their staff and introducers of business may share in such fees or remuneration that may be influenced by total sales, at all times received and/or apportioned in accordance with local regulatory requirements. Further, they or their customers may have or have had interests or long or short positions in the products or services described in this document, and may at any time make purchases and/or sales in them as principal or agent, as well as act (or have acted) as a market maker in such products. This document is published in accordance with ANZ's policies on conflicts of interest and ANZ maintains appropriate information barriers to control the flow of information between businesses within it and its Affiliates.

Your ANZ point of contact can assist with any questions about this document including for further information on these disclosures of interest.

**Country/region specific information:** Unless stated otherwise, this document is distributed by Australia and New Zealand Banking Group Limited (ANZ).

**Australia.** ANZ holds an Australian Financial Services licence no. 234527. For a copy of ANZ's Financial Services Guide please or request from your ANZ point of contact.

**Brazil, Brunei, India, Japan, Kuwait, Malaysia, Switzerland, Taiwan.** This document is distributed in each of these jurisdictions by ANZ on a cross-border basis.

**Cambodia.** The information contained in this document is confidential and is provided solely for your use upon your request. This does not constitute or form part of an offer or solicitation of any offer to engage services, nor should it or any part of it form the basis of, or be relied in any connection with, any contract or commitment whatsoever. ANZ does not have a licence to undertake banking operations or securities business or similar business, in Cambodia. By requesting financial services from ANZ, you agree, represent and warrant that you are engaging our services wholly outside of Cambodia and subject to the laws of the contract governing the terms of our engagement.

**Chile.** You understand and agree that ANZ Banking Group Limited is not regulated by Chilean Authorities and that the provision of ANZ Research is not subject to any Chilean supervision and is not guaranteed by any regulatory or governmental agency in Chile.

**European Economic Area (EEA):** *United Kingdom.* ANZ is authorised in the United Kingdom by the Prudential Regulation Authority (**PRA**) and is subject to regulation by the Financial Conduct Authority (**FCA**) and limited regulation by the PRA. Details about the extent of our regulation by the PRA are available from us on request. This document is distributed in the United Kingdom by Australia and New Zealand Banking Group Limited ANZ solely for the information of persons who would come within the FCA definition of "eligible counterparty" or "professional client". It is not intended for and must not be distributed to any person who would come within the FCA definition of "retail client". Nothing here excludes or restricts any duty or liability to a customer which ANZ may have under the UK Financial Services and Markets Act 2000 or under the regulatory system as defined in the Rules of the Prudential Regulation Authority (**PRA**) and the FCA. ANZ is authorised in the United Kingdom by the PRA and is subject to regulation by the FCA and limited regulation by the PRA. Details about the extent of our regulation by the PRA are available from us on request.

**Fiji.** For Fiji regulatory purposes, this document and any views and recommendations are not to be deemed as investment advice. Fiji investors must seek licensed professional advice should they wish to make any investment in relation to this document.

**Hong Kong.** This publication is issued or distributed in Hong Kong by the Hong Kong branch of ANZ, which is registered at the Hong Kong Monetary Authority to conduct Type 1 (dealing in securities), Type 4 (advising on securities) and Type 6 (advising on corporate finance) regulated activities. The contents of this publication have not been reviewed by any regulatory authority in Hong Kong.



## Important notice

**India.** If this document is received in India, only you (the specified recipient) may print it provided that before doing so, you specify on it your name and place of printing.

**Myanmar.** This publication is intended to be general and part of ANZ's customer service and marketing activities when implementing its functions as a licensed bank. This publication is not Securities Investment Advice (as that term is defined in the Myanmar Securities Transaction Law 2013).

**New Zealand.** This material is for information purposes only and is not financial advice about any product or service. We recommend seeking financial advice about your financial situation and goals before acquiring or disposing of (or not acquiring or disposing of) a financial product

**Oman.** ANZ neither has a registered business presence nor a representative office in Oman and does not undertake banking business or provide financial services in Oman. Consequently ANZ is not regulated by either the Central Bank of Oman or Oman's Capital Market Authority. The information contained in this document is for discussion purposes only and neither constitutes an offer of securities in Oman as contemplated by the Commercial Companies Law of Oman (Royal Decree 4/74) or the Capital Market Law of Oman (Royal Decree 80/98), nor does it constitute an offer to sell, or the solicitation of any offer to buy non-Omani securities in Oman as contemplated by Article 139 of the Executive Regulations to the Capital Market Law (issued vide CMA Decision 1/2009). ANZ does not solicit business in Oman and the only circumstances in which ANZ sends information or material describing financial products or financial services to recipients in Oman, is where such information or material has been requested from ANZ and the recipient understands, acknowledges and agrees that this document has not been approved by the CBO, the CMA or any other regulatory body or authority in Oman. ANZ does not market, offer, sell or distribute any financial or investment products or services in Oman and no subscription to any securities, products or financial services may or will be consummated within Oman. Nothing contained in this document is intended to constitute Omani investment, legal, tax, accounting or other professional advice.

People's Republic of China (PRC). This document may be distributed by either ANZ or Australia and New Zealand Bank (China) Company Limited (ANZ China). Recipients must comply with all applicable laws and regulations of PRC, including any prohibitions on speculative transactions and CNY/CNH arbitrage trading. If this document is distributed by ANZ or an Affiliate (other than ANZ China), the following statement and the text below is applicable: No action has been taken by ANZ or any affiliate which would permit a public offering of any products or services of such an entity or distribution or re-distribution of this document in the PRC. Accordingly, the products and services of such entities are not being offered or sold within the PRC by means of this document or any other document. This document may not be distributed, re-distributed or published in the PRC, except under circumstances that will result in compliance with any applicable laws and regulations. If and when the material accompanying this document relates to the products and/or services of ANZ China, the following statement and the text below is applicable: This document is distributed by ANZ China in the Mainland of the PRC.

Qatar. This document has not been, and will not be:

- lodged or registered with, or reviewed or approved by, the Qatar Central Bank (QCB), the Qatar Financial Centre (QFC) Authority, QFC Regulatory Authority or any other authority in the State of Qatar (Qatar); or
- · authorised or licensed for distribution in Qatar,

and the information contained in this document does not, and is not intended to, constitute a public offer or other invitation in respect of securities in Qatar or the QFC. The financial products or services described in this document have not been, and will not be:

- registered with the QCB, QFC Authority, QFC Regulatory Authority or any other governmental authority in Qatar; or
- authorised or licensed for offering, marketing, issue or sale, directly or indirectly, in Qatar.

Accordingly, the financial products or services described in this document are not being, and will not be, offered, issued or sold in Qatar, and this document is not being, and will not be, distributed in Qatar. The offering, marketing, issue and sale of the financial products or services described in this document and distribution of this document is being made in, and is subject to the laws, regulations and rules of, jurisdictions outside of Qatar and the QFC. Recipients of this document must abide by this restriction and not distribute this document in breach of this restriction. This document is being sent/issued to a limited number of institutional and/or sophisticated investors (i) upon their request and confirmation that they understand the statements above; and (ii) on the condition that it will not be provided to any person other than the original recipient, and is not for general circulation and may not be reproduced or used for any other purpose.

**Singapore.** This document is distributed in Singapore by the Singapore branch of ANZ solely for the information of "accredited investors", "expert investors" or (as the case may be) "institutional investors" (each term as defined in the Securities and Futures Act Cap. 289 of Singapore). ANZ is licensed in Singapore under the Banking Act Cap. 19 of Singapore and is exempted from holding a financial adviser's licence under Section 23(1)(a) of the Financial Advisers Act Cap. 100 of Singapore. In respect of any matters arising from, or in connection with, the distribution of this publication in Singapore, please speak to your usual ANZ contact in Singapore.

**United Arab Emirates (UAE).** This document is distributed in the UAE or the Dubai International Financial Centre (**DIFC**) (as applicable) by ANZ. This document does not, and is not intended to constitute: (a) an offer of securities anywhere in the UAE; (b) the carrying on or engagement in banking, financial and/or investment consultation business in the UAE under the rules and regulations made by the Central Bank of the UAE, the Emirates Securities and Commodities Authority or the UAE Ministry of Economy; (c) an offer of securities within the meaning of the Dubai International Financial Centre Markets Law (DIFCML) No. 12 of 2004; and (d) a financial promotion, as defined under the DIFCML No. 1 of 200. ANZ DIFC Branch is regulated by the Dubai Financial Services Authority (**DFSA**). The financial products or services described in this document are only available to persons who qualify as "Professional Clients" or "Market Counterparty" in accordance with the provisions of the DFSA rules.

**United States.** Except where this is a FX- related document, this document is distributed in the United States by ANZ Securities, Inc. (**ANZ SI**) which is a member of the Financial Regulatory Authority (**FINRA**) (www.finra.org) and registered with the SEC. ANZSI's address is 277 Park Avenue, 31st Floor, New York, NY 10172, USA (Tel: +1 212 801 9160 Fax: +1 212 801 9163). ANZSI accepts responsibility for its content. Information on any securities referred to in this document may be obtained from ANZSI upon request. This document or material is intended for institutional use only – not retail. If you are an institutional customer wishing to effect transactions in any securities referred to in this document you must contact ANZSI, not its affiliates. ANZSI is authorised as a broker-dealer only for institutional customers, not for US Persons (as "US person" is defined in Regulation S under the US Securities Act of 1933, as amended) who are individuals. If you have registered to use this website or have otherwise received this document and are a US Person who is an individual: to avoid loss, you should cease to use this website by unsubscribing or should notify the sender and you should not act on the contents of this document in any way. Non-U.S. analysts: Non-U.S. analysts may not be associated persons of ANZSI and therefore may not be subject to FINRA Rule 2242 restrictions on communications with the subject company, public appearances and trading securities held by the analysts. Where this is an FX-related document, it is distributed in the United States by ANZ's New York Branch, which is also located at 277 Park Avenue, 31st Floor, New York, NY 10172, USA (Tel: +1 212 801 916 0 Fax: +1 212 801 9163).

Vietnam. This document is distributed in Vietnam by ANZ or ANZ Bank (Vietnam) Limited, a subsidiary of ANZ.

This document has been prepared by ANZ Bank New Zealand Limited, Level 10, 171 Featherston Street, Wellington 6011, New Zealand, Ph 64-4-576 1022, e-mail nzeconomics@anz.com, http://www.anz.co.nz