Capital Markets

ROUNDTABLE SERIES

Canadian Government Finance & Global SSA DCM

MARCH 2022

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FOREWORD

Welcome to RBC's 2021 SSA review

We are pleased once again to bring you invaluable insight from a series of roundtable discussions with issuers, investors and experts covering every area of the SSA market. Our panel members gave their views on the themes that mattered in SSA in 2021, as well as looking ahead at what to expect in 2022. Having risen to the global challenge of COVID-driven increased funding needs in 2020, the sector continued to perform strongly in 2021. Funding levels were healthy, and issuers continued to seek out new pools of liquidity, targeting their issuance to where investor demand was strongest. Looking forward, while inflation is a concern, most participants were positive about the outlook for the market in 2022.

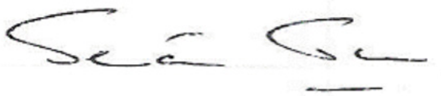
As always, we are incredibly grateful to our many panel members for taking the time to contribute to this review. Thank you for providing us with your expertise and insight.

With a worldwide presence as one of the most innovative fixed income sectors, the SSA business is central to our global fixed income franchise. Having been a key element of the financial response to the pandemic, it is rapidly emerging as an engine for the global economic transition; labelled bond issuance continued to surge in 2021 and some panelists saw it becoming the rule rather than the exception in the not-too-distant future.

RBC's SSA platform enjoyed another strong year in 2021:

- In the US, we led 36 SSA benchmarks for 25 different issuers totaling over $70 billion, and arranged a number of inaugural SOFR transactions.
- In Canada, RBC ranked as the top underwriter of Canadian domestic government bonds (ex. Quebec), having led 79 transactions in 2021 totaling ~C$24 billion, or ~22% of the sector's ~$110.2 billion.
- We ranked #1 in GBP SSA (excl. UK DMO) with 20 Benchmarks executed in 2021 for 17 different issuers, totaling over £13 billion. We were also Joint Bookrunner on 2 Gilt Syndications for the UK DMO (a £6bn Jul-51 and £6bn Jul-53 Green Gilt).
- In Australia, RBC led ~42% of all Kangaroo SSA supply in 2021, finishing the year #2 on the Kangaroo league table. RBC continues to be a leader in the ESG space, remaining #1 underwriter of Kangaroo Sustainable debt, working with issuers to place debut and repeat ESG transactions into the Australian investor base.
- We have ranked as a top underwriter in SSA Risk Free Rates globally since 2018 and have led 16 inaugural SSA RFR transactions since 2018.
- We are a strong supporter of the Green and ESG bond markets, having been bookrunner on inaugural Sustainability & Green Benchmarks for issuers, as well as being active across AUD, CAD, EUR, GBP, NZD, USD, TRY, ZAR currencies.
- Our secondary trading and distribution capabilities continue to provide liquidity even during the most challenging of markets.

Concerns around monetary tightening and volatility notwithstanding, 2022 looks set to be another healthy 12 months for the SSA sector. I wish everyone a productive and prosperous year, in which we emerge from the challenges of the pandemic stronger and more financially resilient than ever.



Sean Taor
Head of European DCM
RBC Capital Markets

KEY TAKEAWAYS

1. **Issuance remained strong even as the COVID-led surge eased off in some markets**
   While some issuers saw their funding volumes return to a more normal level in 2021, for others, ongoing financing of COVID-19-related projects contributed to record issuance. The supranational sector remained particularly active, while the Maple market set new records and Kangaroo issuance rose significantly year-on-year. Issuers have been proactive in seeking out pools of liquidity across different currency markets and focusing on popular maturities. As a result, demand has remained robust.

2. **The popularity of ESG is taking labelled bonds mainstream**
   As one panelist pointed out, if ESG was a hot topic going into 2021, it is a scorching one as we enter 2022. Despite ever-increasing levels of issuance, demand for ESG-related bonds from both existing and new market entrants consistently outstripped supply in 2021. Interest is coming from all corners, and many investors have a dedicated strategy or even a separate ESG portfolio. Green bonds remained the most common type of labelled issuance, but social bonds are rising in popularity. As relevant regulations become more exacting and standards evolve, labelled bonds are set to feature heavily in the 2022 SSA market.

3. **SOFR, SONIA and ESTR become the norm as LIBOR bows out**
   The transition away from LIBOR and towards risk-free rates (RFRs) continued in 2021, with issuers reporting a positive reception from investors for issues referencing RFRs. Liquidity in SOFR derivatives increased substantially, making it more feasible to use the SOFR curve as a reference point for new issuances. Consequently, a number of issuers used SOFR for the first time in 2021, while others had firm plans to do so in the first months of 2022. The discontinuation of Sterling Libor in December 2021 passed with minimum disruption, adding support to the wider global transition towards alternative risk-free reference rates.

4. **An uncertain economic environment means volatility is a concern**
   With inflation proving less transitory than central banks had hoped, monetary tightening and serial rate rises are one factor which could destabilize markets. Rates are critical to investment decisions, while monetary tightening is likely to lead to a preference for shorter duration. With that in mind, market participants will be monitoring central bank actions closely. In a volatile environment, investors will be looking for size, predictability, and a consistent presence in the market from issuers.

5. **Issuers are looking forward to getting face to face with investors again**
   Issuers and investors adapted well to a new way of working together throughout the COVID pandemic. Virtual roadshows and video conferencing are likely to remain a part of the communication mix going forward. However, relationships matter in the sector and many issuers are keen to get face to face with investors once again. Assuming the virus becomes endemic, and travel continues to open up, expect the return of the roadshow in 2022.

ROUNDTABLES

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INVESTORS SEEK CONSISTENCY FROM ISSUERS IN A VOLATILE ENVIRONMENT

Our investor panel expects to be closely monitoring the dynamics between inflation levels and the Fed's ongoing response to them in 2022. Rates are critical to their investment decisions at this stage of the cycle, while monetary tightening will lead to a preference for shorter duration. Meanwhile, with the ECB moving more slowly, there is likely to be a skew towards favoring euros. ESG is a growing focus, and despite ever-increasing issuance, demand is outstripping supply. Overall, participants most valued size, predictability, and a consistent presence in the market from issuers.

PARTICIPANTS:

Darren Crook
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RBC Capital Markets

Andy Gowans
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RBC Capital Markets

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Matt Walsh
Portfolio Manager
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Isabel Wiggans
Associate Director
Asset Portfolio Manager
RBC Funding and Liquidity

Darren Crook: Thank you all for joining, we greatly appreciate it. To kick off, let's start with the leading headline in fixed income markets – the FOMC. To what extent is the current tightening of monetary conditions by the Fed and expectations of future Fed tightening defining your investment decisions in US dollars?

Grigor Sargsyan: For a very long time, in the US and it's fair to say in the rest of the world, we were operating in an environment where central banks were trying to generate inflation fearing that deflation can have a serious negative impact on investments in the economy. And I think it was 2015, or around that time, when Paul Volcker was warning that you've got to be careful what you wish for if you want to generate inflation. That's because once inflation gets out of hand it's much harder to tame it without inflicting serious pain on the markets (something that we see these days), or without having a negative impact on economic growth in the medium term. That's the long response to what could have been a short answer, but fixed income investors like us, who operate in the high-grade space, are reviewing the asset allocation of our portfolios to see which asset classes would perform better in a high inflation environment coupled with an aggressive monetary policy, especially in the US. In Europe, we're still not seeing much of monetary policy action priced into markets despite inflation picking up, but here in the US we are running scenario analyses around possible central bank responses to see how it will impact our portfolios.

Matt Walsh: It really depends on the speed of tightening of financial conditions and how we arrive there. As other people said, it really depends on the macro environment – if inflation stays much more persistent, and growth remains robust, how does the Fed respond to that? Markets are pricing in quite an aggressive tightening cycle, if it ends up being much more benign that would change our security selection, asset allocation, tenor and fixed versus floating decisions etc. But if it becomes much more aggressive, and I think more pertinent to banks, it really depends on what happens with QT. If reserves start getting impacted by more aggressive QT in the second half of the year, that could definitely impact how we're thinking about the curve and if we should be more overweight fixed or floating, etc. It really depends on how aggressive the Fed gets versus where things are currently priced. If we priced enough into forwards already, you can find value, if it's not priced yet it becomes increasingly challenging, and probably provides a more prudent approach on how to allocate duration.

It really depends on the macro environment – if inflation stays much more persistent, and growth remains robust, how does the Fed respond to that? Markets are pricing in quite an aggressive tightening cycle, if it ends up being much more benign that would change our security selection, asset allocation, tenor and fixed versus floating decisions etc.

MATT WALSH

Darren Crook: I'll ask Andy, do you think the Fed's tightening path will be aggressive enough to materially diminish reserves?

Andy Gowans: No. I think Matt's point is great. It's the rate that is almost critical at this stage of the cycle. I think as we go into this first FOMC meeting of 2022, when you look at how non-committal the Fed was in 2021, I think it would be a surprise to see them again at this stage of the year stray too far from having flexibility in terms of how they approach policy. Plenty of uncertainties are ahead of us this year. We're already starting to see a little bit of moderation in some of the data perhaps, in some of the prices, paid data. So, I think it would be very, very surprising to see a path where the Fed is perhaps overly aggressive, from either a rate perspective or a balance sheet tightening perspective, at least in the first half of this year.

Darren Crook: How is the ECB's slower pace of tightening impacting your approach versus what we're seeing in the US and the pace of the Fed?

Isabel Wiggans: It's impacting our local currency investments in both sterling and euros, but also how we're looking at the dollar space. While there are lots of questions around timing from the Fed, with the ECB moving much more slowly, it creates a pretty favorable supply dynamic, particularly for the dollar market. It feels like as long as they're there, we're going to see a skew towards favoring euros. And for the time being, as the basis becomes more and more exaggerated, if the Fed is particularly aggressive, I think that only moves the needle even further towards euro issuance. So what that naturally means is that you get less in dollars and to a certain extent, less in sterling. So, it's definitely keeping us quite cautious about how we manage the three currencies against each other. And it definitely keeps a cap on what can happen in terms of widening in the dollar market, even if we do get that more aggressive Fed pace. So, it's certainly something that's in the background there, and I think it's going to impact SSA markets across all currencies.

Darren Crook: As we enter an era of tighter monetary policy, is that going to change the duration of your portfolio?

Grigor Sargsyan: The short answer is yes. As was the case during the previous tightening cycle, our preference is – the shorter the better. The market expects the tightening to start in March, and a possible reduction in the balance sheet to follow. There are two aspects we look at. One is, obviously, the overall duration. One would expect the curve to flatten led by the sell-off in the front end. Second, an impact on credit spreads getting wider coupled with a steeper credit curve. As interest rates sell off at some point they are going to attract investors that look at the absolute level of yields for their investments. Some of these investors have the appetite to invest a little bit longer along the curve and carry these investments on a rolling hedge basis. For instance, for some Asian investors these hedging costs are not small, but as the difference between the hedging cost and the yield becomes wide enough the demand for US Treasuries, or corporate bonds and MBS that come with another 100-150 basis point spread, will increase. This demand will create a sort of a cap on how high the yields can go, especially in the longer end, which coupled with the Fed tightening cycle, will result in a flatter or even inverted curve. But for now, we like opportunities in the front end that come with a somewhat higher spread. High quality structures like AAA CLOs or floating rate notes in SSA space are good candidates.

Currently the market is pricing 100 basis points of tightening in monetary policy in 2022 in the US. But what if inflation persists? What if the supply chain issues continue to exist, and they spill over into wage inflation? The Fed was always hoping that inflation would be transitory, however it seems less and less so.

GRIGOR SARGSYAN

Matt Walsh: Like others said, it definitely increases the preference to be a bit shorter duration, given we are just starting the tightening cycle and forward curves are pricing in such a low terminal rate. It still seems like it will be a while before we hit the other side of the cycle. So, preference for shorter duration makes a lot of sense. More specifically, the floating rate SOFR market, has been relatively nascent. That could be an area of focus for us. I do think yield-sensitive buyers will start approaching the market, there's still a lot of HQLA demand unless reserves get impacted, which provides a lot of support. Overall, being shorter duration until the full hiking cycle is priced seems prudent.

Darren Crook: On the floating rate side, what would you be looking for there? What developments would you like to see in the floating rate market outside of additional or more broad-based supply?

Matt Walsh: I think supply is the biggest issue, especially a bit further out the curve. I think there's been a reasonable amount of supply more towards the front end, but I think longer dated floaters make a lot of sense in this environment. There is a lot of support for US dollars overall, including technicals, from the euro market. For us, it is as simple as it sounds. It would be great to see more liquidity and supply in the longer areas of the curve such as the seven-to-ten-year space. It's an effective way to manage duration risk while constructing a robust HQLA portfolio throughout the cycle. There is some nuance from a bank perspective on where the IOER – SOFR currently is and where it is likely to go. That spreads can make or break some of the marginal buying of different floating rate instruments that are a little shorter as you might just be better off staying in cash.

Darren Crook: Do you prefer to hold higher rated securities in this environment? Or are you finding enough liquidity in some of the non-AAA names and relatively tight spreads for those compared to AAAs?

Isabel Wiggans: I think it's a little bit of a mixed bag. In an environment like this the instinct is always to go into higher grade securities and as a bank portfolio, we have a whole range of asset classes we can look at. So, that tendency can be expressed not just in the SSA market but by holding higher reserves and all those options that we have. So, I think there is definitely a skew and a preference towards diversifying into those other safe havens. As we've seen over the past few weeks, the tier two space in SSA has underperformed. But that should provide opportunities for you to pick your moments to get back involved. I find that, generally speaking, the SSA liquidity across the board is decent enough to get involved in some of the cheaper paper, or relatively cheaper paper, here. But I think, as you call them, the sort of "not quite AAAs", those with L2 LCR ratings, are difficult to justify at relatively tight spreads versus the proper tier one space. So as always it's a little bit of navigating any kinks in that basis, but generally, with a preference towards the higher-rated stuff, for sure. As we've seen time and time again in tightening cycles, and in any moment of market breakdown, that liquidity and the pure AAAs is really miles away from the lower-rated stuff.

There's something that I've been thinking about personally, and I'm curious if anyone on the call has a thought about this. One of the things that was noted to me recently was that in the last tightening cycle in 2013, and actually in 2017/2018 as well, we saw a little bit of an underperformance in tier one SSAs versus the tier two stuff. And in some ways it's sort of counterintuitive, but in others it makes sense if it's the more liquid space that people can actually move around in. Something that I'm mulling at the moment is to what extent does that play out again, just given how much cash there is out there? And I think that's something that we're trying to navigate here in terms of how we look at the different parts of market.

Grigor Sargsyan: Tier one SSA bonds are typically liquid enough that they would allow investors to easily get out the positions at times of need. During the tightening cycle, some EM central banks may experience pressure on their international reserves because of tight domestic financial conditions. Obviously, there are always piles of government bonds that they can sell, but if it comes to a point where they need to sell SSA bonds, one could expect to see the most liquid and expensive ones to go out first, slightly underperforming second tier bonds, which remain in the long-term portfolios. Nevertheless, tier one bonds remain absolute champions in terms of liquidity together with government bonds. There is another part of the AAA market that might not be as liquid though. I am talking about covered bonds that sometimes behave more like high-grade corporate bonds, especially at a time of distress, meanwhile in tranquil times they probably get priced through the AA-rated SSA and behave more like tier two SSA bonds.

Darren Crook: I think that's certainly an interesting point, and I think it's clearly a specific dynamic to watch the covered bond market in relation to what senior unsecured spreads are doing from those issuers. Have you found that difficult in terms of covered bonds? Certainly, there have been dry spells around US-dollar covered issuance. Do you find it challenging where you don't have at least some transparency or at least some expectation of sustained supply?

Grigor Sargsyan: Yes, absolutely. I think it was at the end of 2020 when Bank of Canada stopped the program where banks could issue covered bonds in Canadian dollars and pledge it directly to the central bank to raise liquidity. We were hoping that after that program was over we would see more issuance in covered bonds in US dollar in the years to follow. But instead, what we're witnessing is a shrinking presence in this market with negative expected net supply in 2022. Part of the reason, I assume, is the cross-currency basis. The markets have been more tranquil in 2021 and the basis tightened to a level where for many banks it made more sense to issue in Euros and Sterling or other currencies rather than US dollars. So yes, it has been challenging, and one message that we like to convey when we meet covered bond issuers, is that a consistent presence in the US dollar market is going to help investors with their investment plans and asset allocation.

Isabel Wiggans: I think a similar sort of sentiment there, the more consistency we can see from issuers, the better. I think, in some ways, we've come to expect that it's going to be patchy. And when they do print, it's almost like everyone comes and prints at once. So, you kind of learn to navigate that, but it definitely would make planning and asset allocation conversations a lot more straightforward for us, and we're definitely hoping to see some normalization of that market over the next couple of years. And it does feel like there's some hope of that, but it may take a bit longer than we want just given how long it's going to take for the various central bank liquidity provisions to roll off. I think that's particularly true for some of the UK issuers who don't need to touch the market.

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ISABEL WIGGANS

Darren Crook: As you're looking at this market, are there any segments you think offer value currently, or anything you think could offer value as the year goes on?

Andy Gowans: I think your point about "as the year goes on" will be the interesting bit. I think we've already seen the market almost buckle a little bit under the degree of uncertainty it's having to consider, either with regards to the Fed or some of the geopolitical topics currently being discussed. I think as the year goes on, you're going to find a situation where investors, particularly in those kind of AA names, become a little bit more price sensitive than they have been in years gone by. Ultimately, the path of monetary policy is only going to be tighter in the immediate future. So, I think later in the year, particularly in the new issue windows, at least whenever we do get them, we'll start to see some of these tier two names begin to offer up a little bit more value. We have already seen that in the CADES 10-year dollar deal this year. We've seen it to perhaps a lesser extent in the L-Bank deal. And it wouldn't surprise me if we continue to see that happen for the rest of the year. Against that, however, I think you're going to see the AAA supranationals, and perhaps the very tier one agencies, continue to trade very, very well. I think the amount of liquidity in the system, particularly in that sub-five-year bucket, is just going to mean that spreads are unlikely to ever be considered cheap. I think they might offer moderately more value than they have in the last year or two. But I think you're going to have to go hunting to slightly more esoteric names to find value. And I think again, as the year goes on, you'll start to see it crop up a little bit more often than we have in the last six to nine months.

Matt Walsh: I think later on in the year things will become much more interesting. One of the things we found value in, looking around the globe, was the sterling market. It's a less tracked market and there have definitely been opportunities, especially with the rate vol that has occurred over the past three months. I think those dynamics will play out in different places, depending on what happens in the US with QT, once purchases are stopped, and you're getting balance sheet roll off, that's a lot more rate vol that the market needs to digest. Obviously, these themes are all to some degree aligned across correlations. As I said earlier, I think there is value in the SOFR market a bit further out the curve, even though it's an extremely small market as things stand today.

Isabel Wiggans: Echoing a lot of what was said, one thing that definitely we've been focused on and paying attention to for several months now, and is still kind of present, is also looking at the sterling market, and particularly, where they can be found, sterling FRNs. Obviously, in the sort of extreme meltdown that we saw in late October, early November, where sterling swap spreads just completely fell off a cliff, that squeezed everything in on a fixed rate basis and on the asset swap, but then FRNs weren't able to move in the same way and that's created some opportunities there and kept that market looking relatively attractive. And that's kind of come back off again recently, but it's still very much there. And that's something that we've definitely been trying to capitalize on as much as possible. And I think the other thing, while I think more opportunities will definitely be coming to the fore in the sort of latter half of this year, what we always focus on, it's kind of standard, but it's just places where you can find relatively attractive roll down. I think the SSA curve is very flat in some ways, but there are places where you can play it a little bit. And again, it's about timing. And it's finding where you know that you can find the three-month, the six-month roll down, that looks good. And just looking for value there. And you're taking advantage of different modes of trading, shorter term stuff, longer term, which is one of the advantages of being an investor like us.

Darren Crook: We've already highlighted the risks of tightening global monetary conditions across central banks at the top of our conversation, but excluding that, what do you view as the greatest threat to the market this year?

Grigor Sargsyan: If I had to pick one that would be the runaway inflation. Sometimes we underestimate what can actually happen if things get much worse. Central banks, historically, were always late in addressing inflation. Once inflation gets out of hand, it's usually very painful to bring it back. Currently the market is pricing 100 basis points of tightening in monetary policy in 2022 in the US. But what if inflation persists? What if the supply chain issues continue to exist, and they spill over into wage inflation? The Fed was always hoping that inflation would be transitory, however it seems less and less so. Once higher inflation spills over into higher wages, which are the largest component of production costs, they in turn push prices even higher. This all could end up with much higher inflation than expected, and the Fed pushing rates much higher than what is currently priced. I was listening to one of the prominent hedge fund CEOs yesterday, and he was suggesting it resembles the economy in the 70s and 80s. So, there is some sentiment that those times can come back. And with the way the world has changed - greenium, anti-globalization, trends that are very inflationary, runaway inflation can cause very deep scars to the economy. To summarize the largest threat – the Fed tightens much more than what's discounted in the market, that results in a higher vol, higher credit spreads, lower equities, and so on.

Inflation is really going to be the point of focus… it's just something that the market hasn't seen for so long. And not only is it alien to how markets have functioned for the past 20 or 30 years, but I think it will be exaggerated relative to the amount of support we've had over the past couple of years. And it does feel quite nerve-racking, for lack of a better word, to figure out how we get through that as a collective universe of investors and issuers

ISABEL WIGGANS

Matt Walsh: It sounds counterintuitive but if the macro environment just stays extremely hot. If inflation is aggressive and growth remains aggressive – we haven't experienced that over the past 15 to 25 years, it just becomes problematic if the entire market has to reprice what that world looks like. That environment is likely to be full of lots of risk pockets across asset classes. I do echo the previous view; I think that would be a pretty big tail risk so that would be concerning. It's not my base case, by any stretch, but it would be really tough for the market to digest the amount of duration that exists in that environment, across asset classes.

Isabel Wiggans: Not to bang on the same drum, but inflation is really going to be the point of focus. And as everyone's said, it's just something that the market hasn't seen for so long. And not only is it alien to how markets have functioned for the past 20 or 30 years, but I think it will be exaggerated relative to the amount of support we've had over the past couple of years. And it does feel quite nerve-racking, for lack of a better word, to figure out how we get through that as a collective universe of investors and issuers. So I think that's definitely going to be a difficulty that we're all facing. I think on a more microcosmic side of things, the biggest back and forth that we'll probably see in our market is the interplay between a potentially accelerated tapering timeline and the continued shortage of collateral in a heightened reserve environment. Timing that is going to be a real difficulty for any investor in our space, which we've touched on at various points in this conversation.

Darren Crook: What has been your demand for ESG assets, and how has that stacked up against supply? This is clearly a focus of issuers across the universe, so if there's anything else you'd like to share on ESG, please do.

Isabel Wiggans: To answer the main question about supply, we would like to see as much as possible. I would temper that with the statement that we want to see more supply with the high quality of issuance that we have seen over the past few years. We'd like to see that continue to grow and I think it's going to be really important to maintain that high calibre as we move forward from this initial period of growth. What's the next step? How do we continue to expand the market? I would want to make sure everything remains as robust as some of the initial programs, certainly like what the World Bank has put together. And we would love to see those models adopted and continuing to be honed and perfected. So I think it's going to be really important to balance getting it right with continuing to grow.

Matt Walsh: I think we'll probably all have a very similar view. We don't have an explicit ESG mandate, but it's constantly a focus for us and will continue to grow. More supply is definitely better. I would say that supply in benchmark size makes a difference. As we don't have an explicit mandate, I don't think chasing small deals to get the ESG label makes a ton of sense, giving up the liquidity there. I also think issuing in benchmark size is important for that market to continue to grow. It will only become more of a focus for us. Issuance has been pretty healthy. I've actually been surprised at how fast it's grown relative to what I expected.

Darren Crook: As you mentioned, you don't have a specific ESG mandate, so what is the value or the attractiveness of ESG bonds? Is it just that you view them outperforming non-ESG bonds?

Matt Walsh: No, I think there are a couple of things. One is that just that, as an institution, it's become a focus for us given that the principles behind ESG and what it stands for are quite attractive to us as a firm. But to your point, I do think the stickier investment base is also a healthy technical factor within that market. One can get comfortable with some of the tighter spreads given those technical factors that support the market, although the tighter spreads have become much more marginal over the last two years or so. To some degree everyone is moving towards ESG. It continues to be a focus for us, I think most market participants will be moving in that direction as well.

Grigor Sargsyan: While we see an increase in issuance across the SRI spectrum[1], we'd like to see even more of it. We do see that SRI bonds are a little bit more expensive than regular bonds from the same issuers, which is probably an indication of scarcity of those bonds. Therefore going forward we'd like to see more of those high-quality opportunities as that segment of the market does matter to us.

Darren Crook: Andy, in terms of secondary markets, can you comment on the liquidity that you see in ESG bonds? Does it feel like there's always a much deeper bid but a lack of offered-side liquidity, given the stickiness of the investor base here?

Andy Gowans: I think that's generally pretty fair. It's very much an asymmetric product, I think, almost since the product's inception, particularly the green market. You know, there's always been a much larger cash base than an asset pool. Pricing is often the trickiest thing for some investors, you do get this greenium that exists, it's hard to quantify it, there is typically a floor at zero. And what that greenium is worth, nine times out of ten, tends to come down to the individual investor and their willingness to accept that premium versus non-green or non-ESG labelled bonds. Liquidity is almost certainly trickier; some issuers, perhaps the World Bank, make things a little bit easier for the market given their bonds are kind of designated almost by definition almost as ESG bonds. However, once you get down into the green sector, which is just so much smaller, liquidity really does start to dry up, even both ways, particularly if the bonds are, so to speak, relatively expensive on the curve, it can take a lot of time to generate two-way liquidity. Holders have no real incentive to sell, buyers don't want to pay a premium, particularly in smaller cases, therefore, you do at times reach a bit of a standstill in an individual market. But definitely for the ESG sector as a whole, you have this implicit floor at zero of what the premium is going to be.

Pricing is often the trickiest thing for some investors, you do get this greenium that exists, it's hard to quantify it, there is typically a floor at zero. And what that greenium is worth, nine times out of ten, tends to come down to the individual investor and their willingness to accept that premium versus non-green or non-ESG labelled bonds.

ANDY GOWANS

Darren Crook: What are you looking for, or what do you value most, out of issuers programs this year specifically?

Isabel Wiggans: I think frequency and predictability is probably the big one, just the regularity of a program always helps us plan well; and ESG, continuing to see that part of the market grow. We'd like to see continued engagement from issuers and ongoing conversations about it, which is going to be important as we continue to build up our portfolio there. And obviously continued benchmark sizing on issuance is going to be important to continue providing

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the liquidity we need in individual ISINs. I think it's in some ways the same story as always, but as we head into a more turbulent period for markets as a whole, I think that consistency and predictability is going to be very, very important for us.

Grigor Sargsyan: I second what Isabel mentioned. Consistent presence in the same market is crucial for us. Especially for issuers that have been there historically. The increase in ESG issuance is a big plus. That's another important aspect for us to see in 2022.

Matt Walsh: I think it's going to be the same answer. Size, predictability, and coming to the market relatively frequently are super important. That's one of the great aspects of this market – it is transparent, relationships do matter. Talking to different issuers and understanding their needs and how they're thinking about their issuing program I always find helpful. It allows you to have a better grasp on how you think the market structure could change given specific assumptions throughout the next quarter or two quarters. That's helpful to frame portfolio construction and optionality going forward.

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EUROPEAN AGENCIES OPTIMISTIC DESPITE POTENTIAL HEADWINDS

For European agencies, 2021 saw funding levels largely back to pre-COVID levels. ESG continued to grow in importance as a theme, in the form of ever larger green, sustainability and social bond issues. Looking forward, inflation is a key concern, as is ongoing uncertainty. Along with the arrival of less accommodating monetary policy in an environment of slowing growth, these factors could cause volatility in bond markets. However, our panel were broadly positive about the outlook for the coming year and eager to get face to face with stakeholders in 2022.

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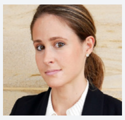

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FUNDING OVERVIEW 2021

Andrea Jelic: Please comment on your funding volume in 2021 and how this may have changed compared to prior years?

Monika Seitelberger: The expected long-term funding volume for 2021 at the outset of the year was around EUR5 billion. This was in line with the larger funding program in 2020 in which we issued EUR5.5 billion. The increased funding in 2020 was due to increased lending on the asset side as well as the implementation of the government´s COVID support programs, under which OKB played an important role. Over the course of the year export financing decreased, however, due to lower economic activity following the pandemic, and the funding target was adjusted to EUR4 billion. This is more in line with previous years, in which our funding program was on average around EUR3-4 billion.

Frank Richter: 2021 was almost a normal funding year for us. In contrast to 2020, we weren't challenged by the ongoing COVID-19 pandemic. From a purely cyclical point of view, the economy returned to a path of growth and we saw a V-shaped recovery. Our lending volume normalized, as did our funding activities. Volume-wise we issued EUR11.5 billion in 2021, which is in line with our long-term average issuance.

Petra Wehlert: We had a very strong year in 2021. We funded a record volume of over EUR82 billion in 15 different currencies, via more than 200 trades.

Mascha Ketting: In 2021 we issued just shy of EUR12 billion (equivalent), with an average maturity of close to 10 years. In line with the increasing average duration on the asset side, we have been extending the average maturity of our liabilities as well. With the targeted longer-term refinancing operations (TLTRO)[2] providing us with favorable, hence shorter-dated funding, our average duration needs have increased as well over the past years.

Antti Kontio: The final size of the funding program for 2021 was circa EUR9.5 billion, which is roughly EUR1.5 billion less than in 2020. COVID-19 had a larger impact on our lending volumes in 2020, which explains a slightly smaller funding volume last year. However, before COVID our funding volumes were in the context of EUR7-9 billion.

Sven Lautenschlaeger & Leanne Winkels: Our funding volume in 2021 was EUR7 billion. That's at the upper end of our usual funding program of EUR5-7 billion. The change is more in the composition of the funding. Whereas in 2020 only a small part was done via structured funding, last year around 20% came from callable transactions.

Tom Meuwissen: The funding volume in 2021 was EUR8.5 billion. This is a bit less than normal, due to our redemption schedule and TLTRO participation. For 2022 we expect the volume to be EUR12-13 billion.

Daniel Aagaard Pedersen: 2021 saw the highest funding volume we've experienced in KommuneKredit for a few years, in excess of EUR6 billion, which was mainly driven by high redemptions in 2022.

Andrea Jelic: Have there been any lasting effects from COVID-19 on your funding program?

Monika Seitelberger: OKB has supported the Austrian government´s measures to mitigate the economic effect of the pandemic via special programs. Most of these programs have subsequently been extended and OKB will continue to support these programs through its available instruments. The lower economic activity following the pandemic, however, has resulted in a decrease in the demand for export financing. Furthermore, the special TLTRO program set up by the ECB has also provided the banking sector with highly attractive funding levels. This has had a negative impact on OKB and the export credit agency sector in general. The lower export financing volumes have ultimately led to a reduction of our funding program in 2021.

Frank Richter: If I look back to the first half of 2021, there was a lot of uncertainty concerning the NGEU[3] program that we had to deal with. The ongoing ECB support through the APP/PEPP[4] stabilized the euro market. In the second half of the year, tensions eased once the market realized that the EU was tapping the market in a very responsible manner. In the foreign currency markets that we monitor we saw significant shifts in our favor, with the US dollar, UK sterling and Australian dollar offering excellent funding conditions. The improvement was mainly driven by cross-currency swap movements (CCSSW), but we also experienced a new assessment of our credit profile, for instance in the Kangaroo market.

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FRANK RICHTER

Petra Wehlert: Indeed, we had no effects from COVID-19 on our funding program. At the beginning of the pandemic, we had a quick team-up with the German Government which provided KfW with the necessary financing through the government-owned Economic Stabilization Fund. In a nutshell, we ringfenced the needs of the COVID-19 loan programs via the Economic Stabilization Fund. At end-2021 our outstanding volume to the Economic Stabilization Fund is around EUR36 billion.

2 Targeted longer-term refinancing operations — Eurosystem operations that provide financing to credit institutions
3 NextGenerationEU — the European Union's COVID-19 economic recovery package
4 The ECB's Asset Purchase Programme and pandemic emergency purchase programme

Mascha Ketting: COVID-19 has had a huge impact on everyone, on a personal and professional level – which also includes our clients. The financial consequences of COVID-19 in the Netherlands have been mostly taken on by the Dutch government, which has increased its funding. As a result, BNG Bank has not experienced any lasting effects on its funding program.

In response to the COVID-19 outbreak the ECB offered TLTROs at competitive levels. This led to a slightly lower funding target than previous years, with shorter dated funding, to some extent, being replaced by our TLTRO participation.

Antti Kontio: COVID-19 grew our long-term customer finance and as a result our funding program for 2020 increased quite significantly. Since then, growth has stabilized and returned to normal levels. However, our funding program for 2022 will be in line with 2021, as redemptions that need to be refinanced are larger.

Sven Lautenschlaeger & Leanne Winkels: No, as almost all funding required for the COVID-support-programs comes either from the German government or from the Federal State of Baden-Württemberg. L-Bank is only administering the payout for Baden-Württemberg.

Tom Meuwissen: We haven't seen any lasting effects from COVID for our funding program, or on the client side either.

Daniel Aagaard Pedersen: None that we can pinpoint yet.

Andrea Jelic: 2021 has provided successful funding conditions across markets. What has been your highlight of 2021?

Monika Seitelberger: Last year was an extremely successful year on the funding side, especially when issuing in the US dollar market. Spreads have been extremely compressed, also in comparison to our peers, and when issuing US dollar global benchmarks extremely attractive funding levels were achievable, as well as highly oversubscribed orderbooks. Our highlight was the three-year global benchmark, which provided us with the largest order book ever (around US$3.8 billion) and a spread over Treasuries of only 9.8 bps. After IFC, as the first supra in the SSA sector, OKB was the first agency in the SSA space to market and price the bond versus the SOFR[5] Mid-Swap (MS). We felt that being one of the first movers would be an important step in implementing this change.

Two further highlights to point out were the issuance of our first offshore CNH[6] transactions as well as the issue of our second Sustainability Bond (NOK1 billion in five years).

Frank Richter: The diversified funding mix we enjoyed in 2021 was definitely a highlight. Our US dollar funding, including two benchmark issues, counted for one quarter of our total funding. Here, the three-year benchmark we issued was our first to be priced versus SOFR. Sterling was also strong at 16% of the total annual funding volume. Also worth mentioning are our labelled bond activities. Based on our strong green track record, we issued two EUR500 million transactions. We also participated in the rapidly developing social bond market. We used this format to extend our euro curve with a 20-year EUR500 million transaction, and also to broaden our presence in the Kangaroo space with two Australian dollar social bonds.

I would also like to emphasize the intrinsic performance potential of our bonds. Four out of six NRW.BANK liquid bonds in US dollars and euros tightened significantly in the secondary market. It is our approach to give performance potential to every transaction. Our interest is in building a long-lasting relationship with our investor base.

Petra Wehlert: There were a couple of unique transactions, of which I would like to highlight three special features. There was the extension of our euro benchmark program to 15 years maturity – a great success at EUR3 billion in size and with a four-times-oversubscribed orderbook. The second very important one for us was the completion of the Risk-free Rate (RFR) family in our core currencies with debut SONIA[7] and SOFR transactions. And last but not least, we saw a strong increase in investor demand for tailor-made placements – in green and conventional formats.

5 Secured overnight financing rate
6 Offshore Chinese Renminbi
7 Sterling Overnight Index Average rate

Mascha Ketting: We are extremely proud of our new sustainability finance framework in which the budgets of Dutch municipalities as well as the expenditures of Dutch social housing associations are linked to the 17 Sustainable Development Goals of the United Nations. We successfully launched transactions for both client groups in 2021. Both transactions were very well received by investors.

One of my personal highlights was our inaugural five-year SOFR transaction, which came to fruition after a long period of preparation. Thus far, BNG Bank is the only Dutch SSA who has issued in SOFR format or in any other of the RFRs.

Antti Kontio: Indeed, it was a very successful year and we have been quite spoiled with the market conditions. Investor demand for our bonds has been at times overwhelming. For instance, the five-year, US$1 billion bond we issued in August saw the biggest ever US dollar orderbook for MuniFin. Also, our 15-year euro social bond tap in October was almost four times oversubscribed and priced through our curve.

Sven Lautenschlaeger & Leanne Winkels: Issuance of multi-callable structures and the largest ever issuance volume in pounds sterling of GBP1 billion+, including the completion of the pound sterling curve with bonds outstanding from 2022 to 2026.

Daniel Aagaard Pedersen: Several highlights; returning to the pound sterling market with a very positive result spread across various transactions including a Green Benchmark, the very successful primary market activity where basically all trades have been distributed to very high-quality investors, on the back of a strong book and very good travel from IPTs[8], and final landing spreads at very attractive levels versus secondaries.

Tom Meuwissen: Funding conditions were very good indeed over 2021. Our highlights were the four ESG benchmarks we issued with the maturities 10, 16, 25 and 30 years in EUR. All were very successful with tight pricing and oversubscribed books.

FUNDING DYNAMICS

Andrea Jelic: The anticipated entrance of the NGEU program was well-received and arguably had less impact on the euro market than feared: EU transactions accounted for 30% of the euro SSA market total in 2021. Have the EU transactions affected your ability to access the euro market or strategy throughout the year? Also, have you noticed any impact on your euro funding levels? And did this result in you having to consider other currency issuance instead, particularly during peak issuance windows?

Tom Meuwissen: Not at all, the EU transactions were digested very well by the market and they showed good performance. We haven't noticed any negative impact.

Antti Kontio: We think the EU has communicated its plans well in advance so we have been able to access the EUR market around their timing without any issues. It looks like there is space for all euro issuers even with the increased supply. Our euro curve stayed stable in 2021, so EU issuance has not affected our curve at all. Luckily this was not an issue to us and we did not have to change our plans.

Petra Wehlert: KfW has a very strong footprint in the euro market. However, in summary, the SSA segment has benefitted from the appearance of a new issuer like the EU, especially the number of investors, and therefore the importance of the segment developed positively. There was no need for us to change our overall funding strategy. We rely on a very broad internationally diversified investor base. And we have diversified access to the market. Contrary to the EU, we have additional access to the US dollar market, which is a great advantage.

8 Initial Price Thoughts

However, the euro is our home currency, and it remains our most important funding currency. In 2021, the euro accounted for 55% of our funding mix, which is a bit less than the year before. But there are also economic reasons for us when we decide which market to choose. QE has delivered very attractive funding conditions for all the issuers in the euro market.

Mascha Ketting: Most issuers will avoid going head-to-head with the EU — certainly BNG will try to avoid this — so it has had an impact on our issuance windows but not necessarily on our strategy. The euro market is deep and liquid enough and demand hasn't been a problem so far, even at tight levels. We have seen huge amounts of issuance passed without changing valuations. Initially, there was a hiccup with the inaugural issue under the new EU program, where investors were preparing for a flood of supply and hoping for proper pick-ups.

BNG aims to maintain a benchmark yield curve in both euros and US dollars. Diversification is always key, with issuance in different currencies other than euros being an integral part of BNG's funding palette, in order to maintain flexibility and optimize the cost of funding.

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MASCHA KETTING

Andrea Jelic: As we start to see QE coming to an end in most markets outside of the Eurozone, let's explore how this impacted funding last year and expectations for 2022. The US dollar SSA market saw another robust year in 2021, with volumes 14% ahead of 2019 at $271 billion, following record issuance of $333 billion in 2020. How important is the US dollar market to your funding program? Did your approach to the currency changed at all last year?

Monika Seitelberger: As in past years, the US dollar market has been the most attractive source of funding for OKB due to very tight issuing levels versus Mid-Swap, as well as the all-in cost when swapping back to euros. This has not changed in the past year, especially since our focus continues to be the three-to-five-year part of the curve due to our asset/liability management needs. The US dollar market has provided for extremely compressed spreads versus SOFR/Libor/Treasuries and our peer group, in general. Should these parameters continue to be as favorable and investor demand for our credit remain unchanged, OKB will continue to issue its global benchmarks into this market.

Sven Lautenschlaeger & Leanne Winkels: Very important. Our approach is to issue two to three fixed-rate benchmarks, which we were able to achieve. Usually, we like to be active in the RFR space as well, which we didn't focus on last year. Coming from our investor base, the US dollar is still their main investment currency. As long as euro rates are negative, a large number of our investors are not looking at euro-denominated bonds.

Daniel Aagaard Pedersen: Very important for us, and it will continue to be so — we will continue to commit to at least a benchmark a year to our US dollar investor base. Our inaugural SOFR transaction was a US dollar highlight, which is a tool we expect to use from time to time.

Andrea Jelic: We saw LIBOR transition filtered through to the US dollar fixed rate market over the summer. Since the first transaction to reference SOFR MS in August 2021, approximately an equal amount of fixed SSA US dollar benchmark issuance utilized SOFR versus LIBOR as a pricing reference over the remainder of the year. Did you make use of the SOFR MS pricing references for fixed US dollar benchmark bonds and/or do you plan to in 2022? Where applicable, did you notice any major differences, For example, in investor dynamics, versus your past MS LIBOR issuance?

Monika Seitelberger: OKB was the first agency in the SSA sector to market and price its three-year global bond versus SOFR MS. Since our systems on both the asset and liability side for risk-free rate linked issues and loans were internally in place, we felt it to be the right step to support the transition to risk-free rates at an early stage. The investor community had an outstanding knowledge of this new marketing and pricing reference. Therefore, there was no change in investor dynamics in comparison to past MS Libor issuance and investors placed their usual orders into the book. We saw no pushback on account of the SOFR reference. This was also substantiated by printing a larger volume (USD 1.75 billion) than expected, achieving our largest order book ever, and even after the spread was tightened by three basis points, the order book kept growing.

Sven Lautenschlaeger & Leanne Winkels: We didn't make use of it yet, but plan to do so in 2022.

Daniel Aagaard Pedersen: We haven't referenced SOFR MS yet but would plan to do so for our next fixed rate.

Andrea Jelic: Are there any specific concerns or opportunities that you currently foresee in 2022 arising from tighter monetary policy?

Monika Seitelberger: The fact that extraordinary monetary policy measures such as QE could soon be rolled back would generally be welcome news for markets, as this would signal a return to a more normal environment. However, there are genuine concerns arising from the expected less accommodative monetary policy to tackle rising inflation, coming amidst a slowing growth dynamic and uncertainty regarding the pandemic. On the other hand, rising yields could lead to less compressed spreads and re-engage real money investors who have been sidelined due to low outright yields and tight spreads.

Sven Lautenschlaeger & Leanne Winkels: Spread widening/higher new issue premiums in the euro market caused by ECB policy change/uncertainty; a more crowded US dollar space, as issuers might favor deeper market liquidity and better arbitrage in US dollars.

Daniel Aagaard Pedersen: Yes, definitely, plenty. Specifically, our view is that it's important to be agile in funding operations and not have a very fixed and finite window to operate in.

Andrea Jelic: Following a more challenging year for currency and investor diversification in 2020, we saw a strong showing across pound sterling, Australian dollar and Canadian dollar SSA markets in 2021. While the pound sterling market had another robust year, both Kangaroo and Canadian dollar Maple volumes notably increased, with the latter achieving a record year of supply. Were you able to take advantage of these markets in 2021?

Sven Lautenschlaeger & Leanne Winkels: We were able to frequent the pound sterling market three times last year, one of those being a dual-tranche transaction. In total that amounted to GBP1.15 billion. In the Australian dollar and New Zealand dollar market we were able to print one transaction in each market. Generally, we are a bit disappointed that we did not manage to benefit more from the demand in these markets. Clearly, the focus here in 2022 will be to broaden our investor access with a change in our syndicate structure.

Tom Meuwissen: We were successful in the pound sterling market with a market share of 17% in our total funding for 2021. That is better than the last few years, when the combined market share for euros and US dollars was over 90%. Because of the very attractive levels in those currencies, it proved difficult to find arbitrage in other currencies. Kangaroo issuance was a bit slow in 2021 we didn't even manage to issue our annual 10 year line.

Daniel Aagaard Pedersen: Yes, as previously mentioned, we returned to the pound sterling market with a very positive result.

Andrea Jelic: How important do you expect these currencies to be for you in 2022?

Sven Lautenschlaeger & Leanne Winkels: With our change in the syndicate structure for both currencies, we expect a better outcome in 2022 for L-Bank.

Tom Meuwissen: I expect most from sterling. Hopefully the Kangaroo market picks up again.

Daniel Aagaard Pedersen: These currencies serve as a very important segment, but all will be subject to delivering some sort of pricing performance. Their inclusion in our funding pool in 2022 will very much depend on this.

Andrea Jelic: Are there any other currencies that you have your eye on for 2022?

Sven Lautenschlaeger & Leanne Winkels: On our wish-list we have issuance of RFR according to newly-established market standards in euro and US dollar and pound sterling and onshore renminbi.

Tom Meuwissen: We are very much focused on diversification amongst currencies but the level of after-swap cost in euros remains key.

Daniel Aagaard Pedersen: Scandinavian currencies.

INNOVATION

Andrea Jelic: There has been a growing focus on digitalization, with blockchain and related products, for example, gaining increasing traction within the financial services industry. Are there any initiatives you are currently exploring for 2022?

Monika Seitelberger: We have been approached by various companies offering systems to simplify certain areas of the issuance procedure and will continue to monitor these new developments closely. There is immense innovation taking place at the moment which could potentially revolutionize the whole workflow surrounding the lifecycle of a bond issue.

Antti Kontio: We see great potential in digitalization in the financial services industry. Some of the processes are still quite manual and inefficient and there are some great fintech firms looking at disrupting the old practices. Last year we were able to issue a one-year Romanian leu trade through the Origin platform, which was a great success. We are also currently developing our term sheet template to receive trade data in a machine-readable format.

Sven Lautenschlaeger & Leanne Winkels: No, as this is a waste of resources, such as energy, hardware...

Andrea Jelic: Are there any specific topics or areas of innovation that you see as particularly relevant to the SSA sector in the coming years?

Monika Seitelberger: Coming innovation would likely lead to bonds becoming a digitized financial product and we definitely expect smart contracts around bond issuance and swap execution to be coming fairly soon.

Mascha Ketting: BNG is always monitoring new developments. However, we are currently not involved in any blockchain projects or transactions.

Antti Kontio: In general, the issuance automation process will be a big theme in the future. There are opportunities to automate the process and make it leaner, and we at MuniFin are open to developing that market as much as possible.

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ANTTI KONTIO

Sven Lautenschlaeger & Leanne Winkels: I think we will have enough work to do once the central banks change their policies and markets start getting back to normal (away from the easy access to funding).

GREEN/SOCIAL/SUSTAINABLE BONDS

Andrea Jelic: The ESG market enjoyed another exceptional year in 2021, with issuance reaching US$775 billion by the end of Q3 2021, versus US$402 billion during the same period last year. What were your highlights in this space?

Petra Wehlert: Clearly, 2021 was an outstanding green bond year. If I look at our lending business, we had very strong domestic business, especially with regards to energy-efficient housing. This allowed us to issue more than EUR16 billion in KfW Green Bonds in 13 different currencies. Green bonds accounted for 20% of our 2021 funding mix — another record number. In 2022, KfW Green Bonds will remain a vital part of our overall funding strategy.

Antti Kontio: We have been an active green bonds issuer since 2016 and a social bonds issuer since last year. We currently have almost EUR3 billion outstanding in green and social bonds, and the amount grows by approximately EUR1 billion each year. Last year we were also able to tap our existing 15-year euro Social Bond by EUR500 million and issue an inaugural pound sterling Green Bond to further diversify our funding sources.

Tom Meuwissen: The share of ESG bonds in our funding last year was over 40%. For us ESG remains a strong focus.

Daniel Aagaard Pedersen: We issued our first benchmark away from euros with our pound sterling transaction. We were also active in a few private placements, namely Australian dollars.

Andrea Jelic: Have you seen any changes in investor dynamics?

Monika Seitelberger: When issuing large benchmarks in US dollars and pound sterling, we witnessed an extremely large oversubscription of our order books last year. Not only did we achieve the largest order book size ever with our three-year US$1.75 billion global bond issued in September, with a volume of US$3.8 billion, but we also issued the largest pound sterling transaction ever, with a volume of £500 million and an order book of over £700 million. We are still seeing a very large participation of central banks globally in our benchmark issues but also larger and more orders from bank treasuries. Due to the strong investor interest in our issues, we upsized the final size of our benchmarks in order to accommodate the strong sentiment for our name.

Petra Wehlert: We do observe a very strong market development with regard to ESG investments. Demand is much higher than supply. This is a development on a global scale. ESG investors are increasingly focusing on holistics, on the overall strategies of an issuer. Products like green bonds enjoy a strong investor focus. The market is becoming mainstream — this is something we support and which is reflected in secondary markets already.

Antti Kontio: Sustainability is a topic that comes up in every investor meeting. In general, there are more and more investors looking at these products, and many of them have a dedicated ESG strategy, or even a separate ESG portfolio. We would only expect to see more investors joining the ESG market.

Tom Meuwissen: More and more investors have an interest in the ESG angle, including central banks. It is not so easy anymore to say which are dedicated investors and which are not, since they almost all are in one way or another.

Daniel Aagaard Pedersen: It was a hot topic going into 2021 – it's scorching by now. ESG and the dialogue with investors on the topic is much more a standalone discussion, and is moving to specialists within each organization, whereas previously it was a tick-box list in a discussion between a portfolio manager and a fund manager.

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DANIEL AAGAARD PEDERSEN

Andrea Jelic: We have seen the emergence of greater ESG SSA supply in non-euro/US dollar currencies in 2021. Were you able to take advantage of this and did you feel you achieved additional investor diversification as a result?

Antti Kontio: We issued our inaugural £250 million Green Bond in November. We went outside the euro and US dollar space because we wanted to further diversify our funding sources and in the pound sterling market we were able to achieve our duration target. We are currently reviewing the possible impact of the EU taxonomy and Green Bond Standard (GBS) on our green program, and therefore concentrating on shorter durations in green bonds for the time being.

Tom Meuwissen: We have so far issued our ESG bonds in euros, US dollars and Swedish krona. For 2022 we aim to also issue ESG bonds in the Kangaroo market and in pounds sterling.

Andrea Jelic: What are your plans for printing green/social/sustainability bonds in 2022?

Petra Wehlert: We put a lot of effort into our ESG rating — our ambition is to be one of the top issuers among our peers in this respect. And looking at our overall ESG footprint, for example, we see an environmental investment ratio for 2021 of more than 50%. In addition, every single euro that KfW lends to any project, domestically or internationally, contributes to at least one of the United Nations Sustainable Development Goals (UNSDGs). KfW is part of the so-called Sustainable Finance Strategy of the Federal Republic of Germany and is on its way to becoming a transformative promotional bank. To achieve this, we are in the middle of the rollout of a comprehensive sustainable finance concept. We aim to be able to show the environmental and social impact of any investment in KfW bonds — be it green or conventional.

Antti Kontio: We are committed to issuing one new green and social bond per year.

Frank Richter: We will broaden our presence in the very dynamic labeled bond market with new green and social bonds. I think that the upcoming EU GBS will be relevant for us. On the social side, we are currently updating our framework to include new project categories such as health and home care, disaster management, and extending education to include kindergarten and universities.

Tom Meuwissen: We have committed ourselves to issue at least 25% of our annual funding in ESG bonds. Last year it was over 40% and next year it will probably be more as well. Actually, investors see us as an ESG entity due to our client portfolio, so our normal bonds also get a lot of interest from dedicated investors.

Daniel Aagaard Pedersen: We will continue to build our presence in green bonds and hope to update the market accordingly in 2022.

INVESTORS

Andrea Jelic: Did you notice any change in investor dynamics last year? Have certain sectors or regions featured more heavily in your recent bond issuance? What are your expectations going forward?

Petra Wehlert: In the euro market, we have seen greater demand from America and Asia, but European investors make up the lion's share of our investor base, at around 80%. Overall, investor behavior in the euro is still very much influenced by the ECB's purchase programs.

Monika Seitelberger: The central bank community is still a major buyer of OKB paper, with 54% of the five-year and 62% of the three-year global total being placed with central banks. Bank treasuries will continue to buy for regulatory purposes and are still large players and often participate with very large ticket sizes. There may have been slightly less demand coming out of Asia (24% of the five-year and 18% of the three-year global total), with investors in that region possibly focusing more on longer maturities. We have seen the Americas' participation growing to around 40-45% in our issues, which used to be from around 30% in previous years. Going forward we believe that central banks and bank treasuries, as well as asset managers, will remain the key drivers and buyers of OKB issues. Bank treasuries have also received slightly bigger allocations in past issues.

Andrea Jelic: Given ongoing COVID-related travel issues, what are your plans for investor relations activity next year?

Monika Seitelberger: We will continue to monitor the possibility to travel again and to meet our investors in person. However, we have also taken the opportunity in the past year and a half to respond to investor requests for virtual meetings. With the pandemic and the growing focus on ESG bonds, virtual roadshows will remain a valid option for the future to meet our investors. Of course, there are pros and cons for both types of roadshows, virtual and non-virtual. Going forward, we very much hope that we will be able to interact with our investors again in person.

With the pandemic and the growing focus on ESG bonds, virtual roadshows will remain a valid option for the future to meet our investors. Of course, there are pros and cons for both types of roadshows, virtual and non-virtual. Going forward, we very much hope that we will be able to interact with our investors again in one-to-one physical meetings.

MONIKA SEITELBERGER

Petra Wehlert: I expect that our investor relations activities will continue to change beyond the pandemic. Virtual and digital formats have proven to be efficient and serve their purpose. During the pandemic, we introduced a semi-annual Global Investor Broadcast, which is an excellent way to reach analysts and investors. We aim to continue this approach.

Personally, I also believe in the future of virtual one-to-one meetings. Of course, face-to-face meetings are more personal, but both will continue. Also, against the backdrop of the climate crisis, we should rethink our pre-pandemic travel behavior around conferences and investor meetings from before the pandemic.

Mascha Ketting: BNG will continue to engage with investors. The COVID-19 pandemic showed us that digital meetings are efficient and effective and helped us reduce our carbon footprint. When COVID restrictions permit we will be looking for a hybrid solution, bringing together both virtual and in-person meetings and interactions. However, at this moment, it is very difficult to predict when BNG will start planning physical roadshows again.

BIGGEST RISKS AND WORRIES FOR NEXT YEAR

Andrea Jelic: The global economy has ended 2021 in arguably better shape than expected at this time last year. While growth expectations rose rapidly, particularly at the beginning of the year, this optimism took something of a knock at the back end of the year. What is your biggest concern as you look ahead to 2022 vis-à-vis your funding program?

Monika Seitelberger: With a funding program of EUR4 billion for 2022, OKB as a rare issuer will need to find attractive funding windows and opportunities. The uncertainties regarding central bank policies and volatile market conditions could be quite challenging next year. Traffic management – the need to find issuing windows together with our core relationship banks will be as essential as in the past. On the issuer side there seems to be a normalization of funding programs to pre-pandemic volumes (with the exception of the EU in EUR). New issue premiums could increase marginally. We hope that investors will continue to buy our credit while the market adjusts to the tapering of asset purchase programs by central banks.

Petra Wehlert: KfW is well positioned, therefore I have no big concerns here; market-wise it will be a challenge for the central banks to manage to reduce QE in an environment of higher inflation. Given the need for structural changes in the economy due to climate protection, I assume more inflation pressure can come. On a positive note, I expect an interesting year in 2022.

We feel very well-prepared with regards to our broad international investor base, the wide range of bond formats we can issue and the different markets we are active in. In addition, in times of volatile markets, fixed-income investors are increasingly likely to look for safe-haven investments. As a triple-A issuer backed by a guarantee from the German government, this might rather play in our favor.

Frank Richter: The biggest risk I see is the upcoming monetary lift-off. In order to avoid a sharp and significant repricing in the markets, central banks have to communicate their tapering strategy in a clear and transparent way. I am confident that they will do so. Nevertheless, uncertainties may arise from the inflation outlook. If inflation is showing tenacity, it may lead to turbulence in the bond market.

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FRANK RICHTER

Mascha Ketting: Geopolitical issues and rising energy prices may lead to continued uncertainty. Inflation is a key topic at the moment — transitory or not — and the FED is expected to hike rates in 2022. Volatility as experienced at the end of 2021 may not have left the stage yet next year. For 2022 our expected funding target is around EUR14 billion.

Antti Kontio: Last year we were been spoiled by low spreads and highly successful benchmark trades, and we understand that this situation won't last forever. We expect volatility to rise next year, which makes it important to find good issuance windows (which is not easy!).

Sven Lautenschlaeger & Leanne Winkels: We have no concerns, as we are well-established and funding is only a question of price.

Tom Meuwissen: Most important for us is what the ECB will do with their buying programs, which of course have a huge impact on our funding conditions.

Daniel Aagaard Pedersen: Volatility and timing. I do not expect to be functioning as smoothly as has been the case for the majority of 2021.

Andrea Jelic: What are your funding plans for 2022?

Petra Wehlert: In 2022, our funding program at KfW is in a range of EUR80-85 billion, thereof at least EUR10 billion Green Bonds. Investors can expect a wide range of bond formats and a variety of currencies from us. This diversification enables us to achieve excellent refinancing conditions to fulfil our mission as Germany's flagship promotional bank. We plan to raise the bulk of the funds via benchmark bonds in euros and US dollars - initial size 3 to 5 billion. And we intend to tap selected outstanding EUR benchmark bonds up to a volume of EUR7 billion for the first time – up to now the limit was EUR6 billion.

Monika Seitelberger: Our funding program for next year will again be around EUR4 billion. We plan to issue 1-2 USD benchmarks as well as a Sustainability Bond possibly in EUR. Furthermore, we will continue to closely look at the GBP market as well as a possible SOFR issuance. To complement this program, we will monitor issuing opportunities in MTNs and PPs in various currencies and maturities targeting attractive funding levels. We are always open and responsive to reverse inquiries from investors.

Mascha Ketting: With Bart van Dooren (BNG's head of Capital Markets and IR) retiring at the end of 2021, our funding team will merge with the money markets and treasury team into a new funding team headed by Koen Westdijk.

Frank Richter: Looking forward to 2022, I do not expect significant shifts in our approach to the markets. With an expected annual funding of EUR11–13 billion we are in line with 2021. Of course, this is assuming that we do not experience unforeseen challenges due to the ongoing pandemic.

From the currency perspective, the euro and US dollar are key. You can expect at least one one-billion benchmark transaction. We will continue to keep an eye on the pound sterling and Australian dollar market.

From a tenor perspective, you can expect NRW.BANK to be active in longer tenors in euros and shorter maturities in US dollars.

Antti Kontio: Our funding volume will be quite similar in 2022, so close to EUR10 billion. We aim to issue two-thirds of that in strategic benchmark markets in euros and US dollars, and the rest in tactical markets – that is, smaller public markets, private placements and the Japanese markets.

Sven Lautenschlaeger & Leanne Winkels: Our funding target for 2022 is EUR5-7 billion; 50-60% by benchmark transactions in US dollars or euros, 15-25% by semi-strategic trades in pounds sterling or Australian dollars, and 20-30% of structured issuance.

Tom Meuwissen: Our funding target for 2022 is EUR12-13 billion. A big part of that will be in benchmarks in euros and US dollars in the benchmark maturities. Hopefully we will also be able to issue more in the other currencies.

Daniel Aagaard Pedersen: We aim to be predictable, so we are not venturing into anything needlessly exotic. You can expect us to be active in the markets we have strategically committed to, especially euros and US dollars, and there will be news about our green bond framework.

SUPRANATIONALS REMAIN IN THE VANGUARD OF THE GLOBAL ECONOMIC RECOVERY

2021 was another year of leadership for the supranational sector; issuers remained highly active across markets to support the ongoing global response to COVID-19 and the global economic recovery. Throughout the year, the sector remained at the forefront of exploring new pools of investor liquidity and driving key market developments. Looking forward, an uncertain economic environment, tighter monetary policy and regional variations in the growth / inflation outlook are likely to mean recurring volatility over the next 12 months, making attractive funding windows scarcer and potentially more crowded. The challenge for issuers will be to navigate this terrain effectively to secure continued access to diversified funding across currencies. We speak to some of the key institutions in the sector to hear their thoughts on 2021 activity and their predictions looking ahead.

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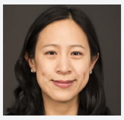

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2021 OVERVIEW & 2022 OUTLOOK

James Taunton: Following a surge in issuance in 2020 as multilateral development banks (MDBs) helped facilitate the global response to COVID-19, how has your issuance program developed in 2021 versus expectations? Are you able to comment on your funding outlook for 2022's program?

Jens Hellerup: In 2021 we funded EUR7 billion, which was in line with our expectations at the beginning of the year. This is about EUR500 million less than 2020 when we had a record year in disbursements, mainly due to our support to member countries to mitigate the consequences of the COVID pandemic. For 2022 we expect a program of EUR6-7 billion.

Felix Grote: The response of MDBs and other official institutions has been decisive and delivered at a remarkable speed. The Council of Europe Development Bank (CEB) has been one of the first movers, providing timely, flexible, and targeted financing to our member countries in response to the COVID-19 crisis. The swift reaction led to a significant number of COVID-19 related projects being approved in 2020 and substantial growth of the CEB's lending portfolio. These loans are usually disbursed in tranches and hence some of the projects approved in 2020 are still being financed this year. As a result, annual borrowing authorization grew from EUR4.5 billion in 2020 to EUR5.5 billion in 2021.

Our borrowing authorization for 2022 is going to be EUR6.5 billion, with a funding operations target of EUR6 billion, the largest program the CEB has ever had. This relatively large volume makes a strategic approach to markets ever more important. The euro and US dollar markets will remain the core pillars and the CEB will continue its strategic presence in these markets. Furthermore, pounds sterling, Australian dollar and also Canadian dollar markets are now established markets to which the CEB has a strategic commitment and in which it wants to remain active on a regular basis. Apart from these markets, the CEB can issue in a wide range of currencies such as Norwegian kroner, Swedish krona, Hong Kong dollar and New Zealand dollar, depending on investor demand and funding costs.

Richard Van Blerk: The EIB funding program for 2021 was adjusted from its initial EUR60 billion target to EUR55 billion. We noted that in 2020, the first year of the pandemic, EIB disbursements were running well ahead of our regular levels, with many of the bank's clients advancing their access to EIB disbursements to the maximum. However, a period of advanced disbursements, is often followed by a slower period of disbursements and this has indeed unfolded in 2021. Looking ahead to 2022, EIB expects its funding target to remain relatively well-contained, ranging for the coming years around the EUR 45-55bn mark, with the pandemic hopefully quickly fading to the background and the European economies further picking up steam.

Isabelle Laurent: Funding was in line with expectations in 2021, with a EUR12 billion target for medium-to-long-term funding, which has been reduced for 2022 to EUR10 billion.

Flora Chao: As the IFC's fiscal year is from July 1 to June 30, we are halfway through the year, while our funding program is about 65% complete. We front-loaded our program due to the conducive market environment allowing for advantageous levels and heightened investor demand.

We have approximately US$4.5 billion remaining of our planned funding for the fiscal year. We hope to continue taking advantage of private placement opportunities that afford us levels inside of our benchmark curve and enhance our investor diversification. At the same time, we are looking at the US dollar floating rate market — given the expectations of rising interest rates, the demand for this product should be strong. As always, we continue to look at non-US dollar public markets like Canadian dollars, pounds sterling, Australian dollars and New Zealand dollars for issuance windows as we want to continue to stay relevant in these markets.

Eusebio Garre: After a funding program of US$2.2 billion – the largest in IDB Invest history – driven by our COVID-19 response, in 2021 we executed US$1.6 billion. We also reached an important milestone in the development of our funding toolbox with the launch of our Kangaroo program. Especially exciting was that we executed 100% of our global funding program as green, social and sustainability bonds under our new Sustainable Debt Framework. We expect our 2022 program to be of similar size to last year's — between US$1.5 billion and US$2 billion.

James Taunton: Had your institution outlined any new COVID-19 responses / initiatives in 2021 in light of the ongoing pandemic?

Jens Hellerup: In 2020 NIB set up the NIB Response bond framework, where the proceeds of the bonds financed projects that alleviate the social and economic consequences of the COVID-19 pandemic in our member countries. In 2020, NIB issued the equivalent of EUR1.4 billion under this program. We don't plan to utilize the program in 2022, however, given current developments, time will show if there is the need to finance new pandemic-related projects, which would allow us to issue more bonds under the NIB Response Bond program. Obviously, we'd rather not use the program again.

Felix Grote: Our 2020 lending activity was predominantly driven by COVID-19 support loans, which amounted to more than 50% of all loans approved. There is an ongoing focus on COVID-19 related projects, as the sanitary crisis has highlighted the importance of investments in the health sector. As a result, COVID-19 related loans still amounted to about a 40% share of total loan disbursements in 2021. In addition, with global economies reopening, conventional lending activity has also picked up strongly again, leading to another year of robust lending activity.

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FELIX GROTE

Richard Van Blerk: As soon as the pandemic hit, EIB redirected EUR28 billion of lending into healthcare support and started its work on the European Guarantee Fund (EGF). The EGF is EIB's main COVID-19 pandemic tool and it can mobilize up to EUR200 billion in guarantees to support small and medium-sized enterprise (SME) lending. Demand for this product has been quite strong and the EIB is currently anticipating a take-up around 90% of its capacity. Given the nature of the guarantee product, however, the EGF will not meaningfully impact EIB funding volumes this year, or in any of the coming few years.

Isabelle Laurent: Despite the ongoing pandemic continuing to cast a shadow over the EBRD's regions, and especially on tourism and supply chains, we saw recovery gathering pace, and therefore had very limited take-up for the EBRD's pandemic response facilities over the course of 2021.

Flora Chao: IFC has stepped up to meet the moment, helping developing countries weather the health crisis, preserve jobs and build toward a green, resilient and inclusive recovery.

We launched the $8 billion Fast-Track COVID-19 Facility in March 2020 to provide liquidity to existing clients. As of the end of the first quarter of our fiscal year, on September 30 2020, we had committed $6.1 billion of the facility, with around 45% expected to benefit the poorest countries and fragile and conflict-affected states.

In July 2020, we launched the $4 billion Global Health Platform (GHP), which is investing in companies to increase the supply of critical medical equipment and services in developing countries, including vaccines. In fiscal year 2021 we committed $1.2 billion under the GHP.

We are working to address the systemic healthcare vulnerabilities exposed by the pandemic. Developing countries need equitable access to vaccines and medical supplies to fight COVID-19 and other diseases. We are addressing market gaps, improving local manufacturing and distribution capacity, and supporting public-private partnerships to strengthen health system resilience.

Access to capital is the biggest constraint on business growth in developing countries, with pre-pandemic data pointing to a nearly $8 trillion financing deficit. That gap has likely grown, with enterprises that were already credit constrained having little buffer to weather the disruptions caused by COVID-19.

We are working to shore up the micro, small and medium enterprises (MSMEs) that are still struggling in the wake of the pandemic. These businesses are the economic foundation for our client countries — delivering essential services, creating jobs, and lifting families out of poverty — and we must ensure their long-term survival.

US DOLLAR AND EURO MARKETS

James Taunton: Clearly, it's been another very interesting year, with the supranational sector at the forefront of reopening markets, exploring new pools of investor liquidity and driving key market developments. How did you find your experience in the US dollar / euro markets in 2021? Were there any specific highlights?

Jens Hellerup: NIB issued two US dollar benchmarks in 2021, a five-year early in the year and a three-year global bond after the summer. We found the US dollar market to be very strong in 2021. The three-year bond we issued in September was priced with a spread of just below 7 bps over the US Treasury, a historically tight level. It was also encouraging to see the investor diversification we achieved in our US dollar benchmark bond orderbooks. Both US dollar benchmarks were nearly equally distributed among the three big geographic areas (EMEA, Americas and Asia). Also, from the perspective of the investor type, diversified demand was well split among central banks/official institutions, bank treasuries and asset managers/pension funds.

Richard Van Blerk: Markets were extremely receptive this year, with increasing amounts of liquidity being dedicated to SSA issuance both in US dollars and in euros. EIB's record orderbooks achieved in 2021 might well remain the all-time records for some years to come. Early in 2021, investor focus on yield allowed issuers to access some of the usually scarcer opportunities at the longer end of euro and US dollar curves. Demand in euro SSA markets was at times even more buoyant than in US dollar markets, but issuance in both currencies has been quite successful and, partly as a result of that, the bank's paper is trading at historically tight levels in both markets.

Flora Chao: IFC is focused on US dollar public markets as well as other public markets like pounds sterling, Australian dollars, New Zealand dollars and Canadian dollars. We have not been in euros as the pricing on an after-swap basis has not been compelling. However, as our program grows, we look to be a consistent issuer in euros in the future.

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RICHARD VAN BLERK

Eusebio Garre: In 2021 we reaffirmed our commitment to a regular presence in the US dollar market with our third US dollar benchmark, a 5-year sustainability bond. This was very well received by investors, with the highest oversubscription rate of any IDB Invest benchmark to date and a broad geographic distribution. We also saw increased interest from investors in one-on-one meetings to understand our institution, our mandate and our sustainability and impact framework.

James Taunton: The anticipated entrance of the NextGenerationEU (NGEU) program was well-received and had less impact on the euro market than feared, despite EU transactions accounting for 30% of the euro SSA market total in 2021. Do you agree that the impact was less than perhaps had been expected in late 2020, and was there any impact on your euro funding in 2021?

Felix Grote: Indeed, the NGEU program has been met with enormous demand and the supply was very well absorbed by markets. As a result, the impact on the SSA market has been rather limited. The main implication for other issuers was and will be that the NGEU program attracts a lot of market focus due to its size and importance and therefore it is wise to avoid the scheduled NGEU windows.

Richard Van Blerk: In a short period of time, the EU has become the largest issuer in SSA markets. The new supply from the EU has not only grown the asset class as a whole but has also made it more relevant to a larger number of investors. It is noteworthy that while supersizing its funding capacity, the EU has managed to materially improve its funding costs. The tone that the EU has set has been beneficial for all participants in the euro SSA space. The frequency and dominance of EU issuance has, however, crowded an already congested calendar for issuance windows.

James Taunton: We saw LIBOR transition filter through to the US dollar fixed rate market over the summer and, since the first transaction in August 2021, approximately an equal amount of fixed SSA US dollar benchmark issuance has utilized the Secured Overnight Financing Rate (SOFR) versus LIBOR as a pricing reference. Going forward; we'd expect to see increased utilization of SOFR MS as a pricing reference. Are you currently set up to issue in this format and do you expect to do so in Q1 in 2022? If you've been active already, did you see any notable differences in the experience / investor interest?

Jens Hellerup: In May, NIB issued its inaugural US$700 million five-year global benchmark bond linked to the SOFR index. With strong demand we were able to set the final spread at SOFR+19 bps, 1 bp tighter than initial price thoughts. Later NIB issued a private placement of US$200 million floating rate notes linked to SOFR under its euro medium term note (EMTN) program. The bank's systems and setup support risk-free rate (RFR) issuance and also different RFR swaps. Further, we are able to provide RFR (SOFR) linked loans to our lending clients.

Felix Grote: The SOFR swap market has gained importance in recent months not least due to the "SOFR First" initiative. Liquidity in SOFR derivatives has increased substantially, making it feasible to use the SOFR curve as a reference point for new issuances. We expect that SOFR will become the market standard reference point for US dollar issuances. We will therefore also adopt it for our transactions as a main reference for pricing.

Richard Van Blerk: EIB will be ready to issue and price fixed rate US dollar bonds in January 2022 using SOFR as the pricing preference rather than LIBOR.

Isabelle Laurent: We are indeed set up to use SOFR mid-swaps as a reference level for our fixed rate US dollar benchmark pricing, but, perhaps in line with the rest of the market, it will take time to establish a feel for market levels without translating back into LIBOR.

Flora Chao: On August 31, 2021, we were the first issuer to market and price our US dollar fixed rate global benchmark bond using SOFR MS. As we had started swapping all our fixed rate plain vanilla issuances to SOFR in February 2021, it was a natural progression to market and price our fixed rate US dollar benchmark using SOFR MS. The transaction was highly successful and garnered a lot of attention from the market, even winning an award. The work we and our dealers did upfront in determining the calculations for pricing and benchmarking ensured that during the transaction, everything went smoothly. We saw very little pushback from investors and ultimately our deal was oversubscribed with 2 bps tightening.

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FLORA CHAO

James Taunton: As we head towards a post-QE world, are there any specific concerns or opportunities that you currently foresee in 2022 arising from tighter monetary policy?

Richard Van Blerk: With the steady withdrawal of exceptional market support programs taking place in most developed markets, we would expect to see excess liquidity slowly drain from the system. While in the immediate future this should not directly impact SSA markets, given enough time we would expect to trend towards slightly lower levels of oversubscription, in combination with a higher quality of demand.

Isabelle Laurent: Historically, we tended to find that more normalized interest rate levels were consistent with a higher level of institutional investor demand for longer-term financing to match their liabilities. And whereas short-to-medium-term investments would typically see investors increase their demand for lower-rated entities, where the differential from a triple-A rated supranational could be a significant percentage of the overall return, at the longer end they were keen to ensure that investments were predominantly with the best triple-A credits.

James Taunton: There have been a number of interesting market developments in 2021, one of which has been the resurgence in seven-to-ten-year US dollar issuance (which rose from US$21.8 billion in 2019 to US$66.9 billion in 2021). How has this fitted into your funding program in 2021 and do you expect to remain active next year?

Richard Van Blerk: As every year, we would be happy to extend into long-end US dollars, if there is enough demand for it. In the past we have at times allowed ourselves to rely on the slightly smaller CAB/SAB US dollar issues at the long end of the US dollar curve, but for example in 2021 we took the opportunity early in the year to issue a US$4 billion ten-year global issue.

CANADIAN DOLLAR / POUND STERLING / AUSTRALIAN DOLLAR MARKETS:

James Taunton: The Canadian dollar SSA Maple market had a record year, with C$9.85 billion of supply, while Kangaroo issuance rose 119% year-on-year and the pound sterling market posted another robust year post-Brexit. How have these markets fitted into your funding plans in 2021 and do you expect this to continue into next year? Have there been any key obstacles or challenges to accessing liquidity in these markets during 2021?

Jens Hellerup: Pounds sterling and Australian dollars offered good diversification for us. In January, NIB priced a five-year £600 million issue, which was NIB's largest ever new sterling benchmark. The final orderbook reached over £800 million. In April, the transaction was increased by £150 million, taking the new total to £750 million. In the Kangaroo market we haven't issued new lines but were able to tap outstanding Kangaroo issues and issue private placements under the EMTN program. Pounds sterling represents 12.6% of new funding this year, and Australian dollars 6.75%.

Felix Grote: In 2021, and in spite of the COVID-19 pandemic and travel restrictions globally, interactions with investors both in Canada and Australia as well as in the United Kingdom have been regular and very constructive, highlighting the renewed interest from investors for high-quality international issuers like the CEB, particularly in these markets. This, together with the favorable financing conditions offered on various occasions in these markets, enabled the CEB to not only raise the share issued in pounds sterling from 8% to 14% year-on-year but also to come back to the Kangaroo market with a well-received benchmark, as well as to issue an inaugural Maple transaction.

The global volatility witnessed over the year, surfacing in sequences across markets following government or central bank decisions in each jurisdiction, impacted the pricing dynamics between markets. On some occasions this has opened favorable issuance windows for the CEB to access all three markets successfully either in terms of size or for the first time.

Recurring volatility also created some obstacles in the sense that a nimble approach was essential to seize issuance windows. Looking towards 2022, this theme of sequenced volatility is likely to remain, as central banks globally are likely to start tapering or raise interest rates at different paces. This will provide similar opportunities and challenges to issuers in the new year.

Flora Chao: IFC welcomed the rising appeal and strengthening of the Canadian dollar market. Though no new issuance took place in the calendar year 2021 from IFC, we maintained an active dialogue with the investor base, as we look to remain active in this market.

In 2021, IFC was one of the largest and most frequent issuers in the Kangaroo market, raising A$2.75 billion. In the first half of the calendar year, our 2035 Social bond Kangaroo line was the most popular. We saw strong demand from Japanese institutional investors for this line. For the latter half of the calendar year, tap transactions in the short-to-mid part of the curve were popular.

Overall, Australian market conditions were good, with the cross-currency basis between US dollars and Australian dollars moving favorably for IFC. At the same time, the absolute yield in Australian dollars increased, which allowed IFC to capture the demand from investors who have absolute yield targets while maintaining relatively tight funding levels.

IFC has maintained a strong presence in the pound sterling market, particularly in the fall, tapping our 2025 line seven times and increasing our 2027 line as well. We issued a new 2026 line in October 2021 and plan to increase that line with time.

Eusebio Garre: In 2021 we launched our Kangaroo program with an A$400 million, 5-year social benchmark. We've also issued private placements in Australian dollars in response to investor requests. We expect to remain active in Australian dollars both through benchmark deals and private placements. We also follow the Canadian dollar SSA Maple market and the British Sterling market closely. These could present opportunities for future issuances depending on the basis swap and the size of our future funding needs.

ESG MARKET:

James Taunton: The environmental, social and governance (ESG) market has enjoyed another exceptional year, with issuance reaching US$775 billion by the end of Q3 2021 compared to US$402 billion during the same period last year. Have there been any key highlights in your ESG issuance this year?

Jens Hellerup: The highlight of the year was the 10th anniversary of NIB Environmental Bond (NEB) issuance (green bonds). We couldn't organize a big celebration, but we released a short movie in which we look back on the EUR5.8 billion of NEB bonds issued and the over 130 sustainable projects financed with their proceeds. During 2021 NIB tapped the outstanding April 2027 NEB with EUR500 million, bringing it to EUR1 billion. Additionally, we issued a five-year SEK3 billion NEB and NIB's inaugural green bond in Norwegian kroner: a six-year NOK1 billion transaction.

Felix Grote: In 2021, the CEB issued 1 billion Social Inclusion Bonds (SIBs) equally split between euros and US dollars. This compares to 1.5 billion COVID-19 Response SIBs issued in 2020, when our flagship issuance product played a key role during the health crisis. The proceeds of both bonds were allocated to loans in the healthcare and MSMEs sectors in the context of the challenges posed by the pandemic. We expect proceeds from the 2021 SIBs to finance projects in all four sectors under our Social Bond Principle[9] aligned framework, with some proceeds still to be allocated to COVID-19 related projects.

As in previous years, we have seen strong investor interest for this year's SIBs both in euros and in US dollars and have also witnessed the arrival of a greater number of newcomers among ESG investors. We expect this trend to continue as the ESG market continues to garner attention from capital market participants globally. For 2022, we will continue to issue our SIBs in the established pattern in euros and US dollars to further strengthen our outstanding SIB curves. We believe that our transparent approach has been greatly appreciated by our investors.

James Taunton: Several issuers on the panel have been active in markets such as GBP, CAD, AUD this year; what drove you to access these markets? Did you see increased investor diversification into the domestic investor bases when issuing in ESG format?

Eusebio Garre: We picked the Australian dollar market to establish an additional funding program, due to its familiarity with other supranational issuers, attractive pricing and the rising demand for sustainable bonds there. We structured our inaugural Kangaroo benchmark as a social bond in response to the increasing demand from Australian investors for social bonds versus green bonds. 59% of the bonds went to Australian investors, mostly asset managers interested in growing their social and green bond portfolios.

PRIVATE PLACEMENTS:

James Taunton: Were there any markets that stand out in 2021 as having developed for you?

Jens Hellerup: One remarkable development in the private placement market for NIB was the issuance of our first two offshore Chinese Renminbi (CNH) denominated bonds. NIB also had a strong year generally in the private placements market. Altogether NIB issued in 11 different currencies, with the largest share in Nordic currencies a combination of private placements and public issuance. For pure private placement the largest currencies were Australian dollars, followed by Hong Kong dollars.

Isabella Laurent: We continued to undertake a number of private placements, but no particular market stood out in 2021. It is clear that the demand for green bonds and social bonds outstrips supply, including in relation to structured private placements, exotic currency bonds and even for the collateral held in catastrophe bond structures. Nevertheless, it has been challenging to increase thematic issuance to accommodate the demand, as issuance

9 A set of voluntary principles published by the International Capital Market Association

volumes for such thematic bonds in any year will likely be more dependent on the volume of disbursements under outstanding projects than on new eligible projects, which typically have a significant delay in their initial drawdown.

EBRD already has three green bond programs and two social bond programs that we will continue to focus on. We are therefore unlikely to introduce new ones, but rather look to increase the reporting that we can undertake in relation to our total portfolio. All our operations reflect our robust approach to sustainability, and new investments will reflect the EBRD's commitment made in 2021 to align all financial flows with the Paris Agreement. Therefore, all our bonds may be considered as financing projects that make a substantial contribution to sustainability in our regions.

James Taunton: The SSA euro callable volume issued increased substantially in 2021. Has this avenue contributed an increased share of your EMTN funding this year or created any new investors?

Jens Hellerup: The bank has issued 12 euro fixed callable transactions (with a value of approximately EUR240 million) this year versus zero last year, so yes, we have seen the same trend. Demand came mainly from pension & insurance and bank treasury investors from Germany and from some investors located in France. (NIB is limited to maximum 20-year legal final maturity, with a shortest non-call period of two years.)

Isabella Laurent: While we did not undertake callable euro transactions, such issuance has been a longtime focus of EBRD's.

James Taunton: We have recently seen some strong demand for New Zealand dollar and Australian dollar long-dated private placement opportunities coming from Asia. These private placement opportunities have represented a great source of liquidity for MBD issuers. Do you think that we'll see issuers continuing to identify new themes to help facilitate this investor demand?

Jens Hellerup: NIB is restricted to maximum ten-year maturity in New Zealand dollars and Australian dollars and the bank has not issued 'new labelled/themed' bonds but only NIB Environmental Bonds (green and blue) under its NIB Environmental Bond Framework in euros and Nordic currencies. Therefore, we have not issued any longer dated bonds in these currencies. As mentioned earlier, we have done a fair amount of shorter-dated transactions in Australian dollars.

INNOVATION:

James Taunton: COVID-19 drove rapid adoption of technology within capital markets and clearly heightened focus on digitalization across a number of arenas. Although still at the early phases of development, there has been noteworthy progress on blockchain issuance and Central Bank Digital Currencies (CBDC). Do you have any plans in this space heading into 2022? Are there any specific topics or areas of innovation that you see as particularly relevant to the SSA sector in the coming years?

Jens Hellerup: There are quite a few developments happening with respect to digital platforms. Particularly in relation to the issuance and documentation process of primary transactions, platforms are being developed by both commercial banks and independent companies. We are following these developments with interest, as we see great potential in making processes easier and more straightforward.

Then there is the whole area of sustainable finance, where a lot of developments are going on. Being in Europe, naturally the EU taxonomy and the European green bond standard (EUGBS) are extremely important to us. It will be interesting to see how the balance will be found between being ambitious and not being too complicated or too rigid and tough will be found.

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JENS HELLERUP

Isabella Laurent: EBRD has been working with a number of fintech firms on a variety of tools. Most of them focus on the simplification and automation of primary market debt issuance (interaction with dealers, execution and documentation).

We are following closely the development of tokenization issuance (via blockchain) and CBDC, but with no active target for 2022.

2022 looks set to be the year of the adoption of multiple innovations in the primary debt market. We believe the interaction between us as an issuer, the dealers, our paying agent, listing venues and clearing systems will soon be managed by platforms – these will ensure any process that can be automated will be. This will likely not impact the active communication already in place between dealers and issuers.

Flora Chao: We do not have concrete plans to issue using blockchain or any CBDCs. Having said that, we are closely monitoring these technologies and taking stock of progress.

INVESTOR DYNAMICS / MARKETING

James Taunton: Were there any investor regions or investor types that particularly pleased or surprised you in 2021?

Richard Van Blerk: In spite of broadly negative yields and relatively tight valuations, almost the entire potential investor base has been active in euro SSA markets this year. In US dollar SSA, demand remains very strong both from central banks/official institutions and bank treasuries. However, we would highlight that on the real money side we are seeing that with Treasury spreads where they are, US domestic investors are not particularly engaged with the product.

James Taunton: Heading into 2021, we'd all hoped that investor interactions could benefit from the merits of in-person interaction as well as those of virtual meetings. However, given that travel and physical meetings have remained fairly limited, particularly transatlantic roadshows, how are you thinking about your investor relations approach for 2022?

Richard Van Blerk: We would not be surprised if the 2021 hybrid model was rolled out again in 2022 – not so much out of preference but because it is the default option in a world where health issues continue to be a large part of the global mindset.

BIGGEST RISKS / CONCERNS / THOUGHTS FOR 2022

James Taunton: What are your biggest concerns looking ahead to 2022?

Jens Hellerup: What concerns me a little is how much faith we put into central bank policies. There are a lot of risks, and naturally many of them are interlinked. Currently we are all talking about how transitory or long lasting inflation will be, tapering from different central banks, diverging interest rate policies, supply chain disruptions, rising energy prices, and for the last couple of weeks the pandemic situation again. Will central banks be able to manage these challenges to financial markets and economies, inflation rates under control monetary policy does not jeopardize the post-pandemic recovery?

This can lead to substantial volatility in the financial markets. At some stage we will also get higher interest rates. However, increased uncertainty can potentially be an advantage for safe-haven AAA supranational assets like NIB's, not only on the funding side but in fact also on the lending side.

Felix Grote: Clearly the global economy has rebounded strongly, supported by monetary and fiscal stimulus. Given the unprecedented economic impact of the pandemic and the unprecedented measures, policy makers have found it difficult to accurately forecast the economic implications. Consequently, there is a risk that policies need to be adjusted on an ad-hoc basis. Furthermore, the recovery has progressed at a different pace across regions, with some geographic fragmentation in the compositions of the key drivers of growth and inflation. This, combined with policy uncertainty, has created an environment of heightened volatility, especially for cross-currency markets. We expect this environment to remain during 2022, which may make attractive funding windows scarcer. We see it as the key challenge for funding markets next year to navigate more volatile markets and still achieve a diversified funding mix across currencies.

Richard Van Blerk: To most frequent issuers, the coming funding year always looks much more daunting than the ones gone by — and 2022 is certainly not an exception to that rule. So indeed, the withdrawal of extraordinary monetary policy measures, localized inflation, geopolitical developments and the ongoing pandemic are some of the themes that will prevail next year. As a longstanding issuer with a global franchise we feel confident in our wherewithal and experience to navigate these challenges.

Isabella Laurent: There are so many potential sources of concern, from the geopolitical to the effects of the ongoing pandemic, to the likely persistence of inflation and the possible effects of cybercrime (for instance arising from, or similar to, the recently discovered Log4j vulnerability[10]).

One very specific concern I have is that, in the important regulatory push for the market to factor in sustainability risks and opportunities, there will be increasing market fragmentation, as different jurisdictions seek to impose their distinct local or regional reporting requirements. In general, I believe that these will likely be too complex, onerous and costly for a significant proportion of issuers to support through their disclosures.

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ISABELLA LAURENT

10 Log4j is a piece of open-source software, a logging library for Java, which is widely used by by businesses. The Log4j vulnerability potentially enables malicious hackers to remotely execute code on any targeted computer.

James Taunton: Are there any notable developments you expect to see in Q1 2022?

Felix Grote: As there is some uncertainty around how long favorable funding conditions will remain intact, we expect that primary markets will kick off in a very strong fashion, because issuers will aim to frontload their activity as much as possible. Given heightened volatility, we expect favorable funding windows to arise and disappear in a fluctuating manner. We expect that issuers may try to access the same markets at the same time, which could lead to crowded primary markets.

Isabella Laurent: I am hoping that in Q1 2022 we shall restart face-to-face meetings. I am also expecting Q1 2022 to bring us the publication of the Platform on Sustainable Finance's recommendations on extending the EU Taxonomy in relation to activities that offer a substantial social contribution; to the first batch of recommendations on the four remaining environmental objectives; and to highlight economic activities that are deemed to cause significant harm, as well as those with no significant sustainability impact.

Flora Chao: The manner in which the Fed will handle inflation and a tight labor market, and importantly how it is communicated to the market, will undoubtedly cause some volatility this quarter, in addition to the transmission of new COVID-19 variants.

Eusebio Garre: I am optimistic for 2022, although the outlook for economic growth and interest rates remains constrained by Omicron and possibly other future mutations of the COVID-19 virus. Overall, the world has adapted to living and working differently; economic growth and employment recovered in 2021 and should remain positive in 2022. My biggest concern is that additional mandates and restrictions reduce the appetite of private sector companies for long term investments. That would increase the economy's reliance on stimulus and monetary easing, which cannot last forever without major negative consequences.

> HOME

THE KANGAROO MARKET BOUNCES BACK TO HEALTH

Following an understandably subdued 2020, the Kangaroo market returned to good health in 2021. It proved to be a record year for several established players, while there were promising debuts for some new entrants. The impact of the Reserve Bank of Australia's QE program influenced tenor selection, driving increased issuance around the 3-year point on the curve. Meanwhile, the Kangaroo market continued its pioneering role as the second most developed labeled bond market (after Europe). Growing levels of green, social and sustainability issuance saw ESG products accounting for close to half of Kangaroo SSA supply.

PARTICIPANTS:

Daniel Wilson
Vice-President, Debt Capital Markets, Asia Pacific
RBC Capital Markets

Evan Rodger Morgan
Vice President International Funding
Kommunalbanken AS
(KBN)

Lars Ainsley
Senior Manager New Issues
Kreditanstalt fuer Wiederaufbau
(KfW)

Frank Richter
Head, Investor Relations
NRW.BANK
(NRW.Bank)

Dominika Rosolowska
Sustainability Funding Officer
European Investment Bank
(EIB)

Eusebio Garre
Head of Funding
Inter American Investment Corporation
(IDB)

SUCCESS IN THE KANGAROO MARKET

Daniel Wilson: Following a subdued 2020 from an issuance volume perspective, the Kangaroo SSA market saw supply return to more traditional volume, with over A$20bn issued so far this year, the largest amount since 2017. The year has seen some nuances in terms of tenors on the back of the broader macro backdrop and domestic QE environment and we have seen reasonably consistent supply over the year to November.

IDB

Daniel Wilson: 2021 marked your inaugural outing to the Kangaroo market with the highly successful 5-year Social Bond. Can you talk us through what drew you to the market as a potential source of funding and your experience in your first outing?

Eusebio Garre: As the private sector institution of the Inter-American Development Bank group and a highly rated multilateral development bank, it's key for IDB Invest to diversify our funding sources by tapping into markets that complement our core funding activity in US dollars. The decision to enter the Kangaroo market was an easy one given the consistent demand for SSA paper, the familiarity of Australian investors with the SSA issuer universe, the flexibility to tap outstanding lines, and the regular participation of global investors. Also, the continuing growth of ESG issues in the Kangaroo market dovetails nicely with our commitment to environmental, economic, and social impact and our Sustainable Debt Issues.

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EUSEBIO GARRE

KBN

Daniel Wilson: KBN has been a consistent issuer in the Kangaroo market, in recent years able to achieve around A$1 billion of funding. What have been the key factors that have allowed KBN to successfully access the market on a regular basis?

Evan Rodger Morgan: KBN has long held an ambition to complete 5-10% of our annual funding program in the Kangaroo market. We have been an active issuer in the market since 2001 and have had a strong focus on building a liquid curve. Obviously, we haven't been down to visit investors since March 2019, but we have undertaken efforts to keep our Australian investors up to date via virtual roadshows. I think this consistency is appreciated by investors and has allowed us to move quickly and access the market when conditions and pricing have aligned.

KfW

Daniel Wilson: 2021 has been the largest year for KfW in the kangaroo market since 2015. Can you briefly outline what has contributed to your success in 2021 and how this has differed from previous years?

Lars Ainsley: Our success in 2021 was the result of a strategic long-term approach, combined with external factors that moved in our favor. Over the past years KfW has defended its position as the largest issuer by outstanding volume and made sure to add substantial liquidity on a regular basis across the curve. This setup and efficient internal processes have allowed us to react very flexibly to specific investor demand in various maturities. In addition, thanks to the extraordinarily strong demand for our 'green' loan programs, we were able to satisfy the surging demand for green bonds made by KfW. At the same time, market conditions for both investors and issuers improved in the course of the year.

NRW.BANK

Daniel Wilson: 2021 saw NRW.Bank issue A$725 million into the Kangaroo market, your largest year since the program was established. That compares to issuance of A$550 million in 2019 and A$625 million in 2020. Can you briefly discuss your approach to the Kangaroo market and how it has evolved over time?

Frank Richter: Well, our approach to the Kangaroo market is a long-term approach. We were fully aware in 2016, when we undusted our Kangaroo program, that we were on a long distance run instead of a sprint. Having said that, it is obvious, as the saying goes, that "you have to sow the seed before you can reap the harvest". The expected benefits will surpass the 'cost' over time. Of course, nobody knows exactly when the breakeven point is met, but we believe that our efforts will pay off over time.

Developing markets for NRW.BANK means investing in these markets. In order to establish NRW.BANK as an issuer in the Kangaroo market, we paid more versus our domestic euro cost of funding. We did this with the conviction that our effort would be honored over time. And, yes, in line with market consensus, our Kangaroo entry premium decreased from transaction to transaction.

What is driving our strategic decision approaching the Kangaroo market? Investor diversification is key. Analyzing capital markets globally, we identified uncharted territory in the Asia-Pacific region. We believe in the benefit of having access to Australian and Japanese funds — funds that we cannot reach with our well-established euro, US dollar or pound sterling denominated bond programs. In addition, we recognized that the Australian dollar is becoming fashionable among our existing investor base. More and more central banks diversify their investment portfolio away from US dollars. Our efforts in the Kangaroo market were especially welcomed by official institutions from the APAC region.

As well as broadening our funding base, the Kangaroo market offers duration. In addition to the euro market, we find demand there for tenors beyond five years. This offers additional options to NRW.BANK's asset and liability management. This option is valuable because calibrating funding duration through smaller tickets is possible.

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FRANK RICHTER

If I look back over the last few years, our success is obvious. Including taps, we have issued 12 times in the Kangaroo format. Outstanding volume is over A$2.1 billion, while three bonds have a single-issue size north of A$500 million. This is important as key investors request a minimum volume of half a billion per ISIN-code. From a curve perspective, investors can make use of the maturities from 2023 to 2031.

Important steps were taken in 2020 and 2021. In 2020, we met strong investor appetite with a three-year transaction; the order book skyrocketed to A$700 million. Market participants applauded the extraordinary success. Based on this success we were optimistic for 2021; establishing more liquid points on the curve was our target.

Recognizing that themed bonds are attracting additional demand, and it is a market where NRW.BANK can deliver, we decided to make a social bond offering to investors. The 5-year social bond from March was well received and reached a volume of A$350 million. One month later, we printed a 10-year tenor — the first since 2017. Both issues were tapped immediately to meet the overwhelming investor demand. Today, the outstanding volume stands at A$600 million (5-year) and A$125m (10-year).

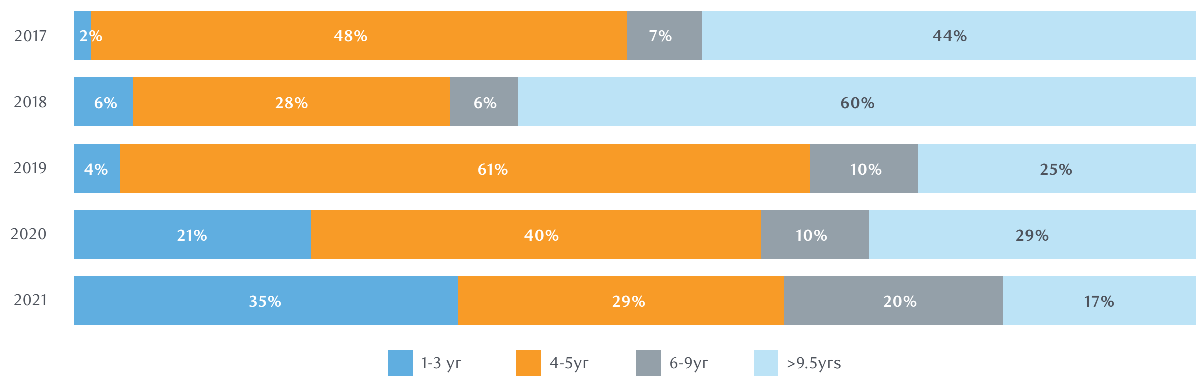
One key ingredient for our amazing journey through the Kangaroo market were people we could rely on. We gratefully received advice from RBC and others. In addition, I believe Sam Swiss from Kanganews opened doors for us, doors used by Tatjana and me to build strong relationships with investors and syndicates.

MATURITY SELECTION

Daniel Wilson: As mentioned, the Kangaroo SSA market did see some nuances in terms of tenor selection from a supply standpoint. This was on the back of the RBA's QE program and more specifically their Yield Curve Control target for the ACGB[11] April 2024 line at 10 bps. This was a key driver of demand around the 3-year sector of the curve, with about 36% and over A$7 billion of supply coming in this maturity — the highest percentage and notional amount the market has ever experienced.

While only accounting for 27% of overall supply, the 5yr tenor remains the sweet spot on the curve, aligning pricing and demand. Through the first half of the year, we also saw market conditions supportive of 7-year and 10-year supply.

SSA ISSUANCE BREAKDOWN BY TENOR



11 Australian Commonwealth Government Bonds

IDB

Daniel Wilson: Can you outline your thought process for the maturity selection of a 5-year bond for your inaugural transaction?

Eusebio Garre: A 5-year tenor was a good fit to our asset and liability management requirements. That being historically the core maturity in the Kangaroo market, it's where we expected to reach the largest amount of investor interest, especially from domestic investors. The fact that 59% of the book went to Australian accounts seems to confirm that assumption.

KBN

Daniel Wilson: KBN issued its first public benchmark around the 3-year sector of the curve since 2018 — can you discuss your decision to choose this maturity?

Evan Rodger Morgan: The Kangaroo market has traditionally been a 5-year to 10-year market for KBN. For at least the last ten years, we have not issued a 3-year benchmark. KBN's lack of previous issuance in this tenor is more related to market dynamics, however, than necessarily a preference from our side. Pricing versus what has been achievable in the US Dollar Benchmark market, has just made it very difficult.

With the change in market dynamics this year, not only did we see strong interest in this maturity bucket, but pricing back to US dollars also made sense for us. As we hadn't issued a 3-year for so long, it was also quite an exciting trade for us to be able to get done in Kangaroo format.

KFW

Daniel Wilson: KfW has had great success in the 2-3-year sector of the curve in 2021, accessing the market nine times and accounting for around 40% of total supply at this point on the curve. How was KfW able to capitalize on the demand dynamics at this point on the curve to achieve this result?

Lars Ainsley: In fact, our short end bonds were in great demand this year because they provided a very attractive pickup compared to government bonds. Fortunately, we had two appealing bonds to offer with a 2024 maturity. Our March 2024 Kangaroo bond is now the largest bond on our curve, with an outstanding volume of A$3 billion. Undoubtedly, the major highlight of the year was our July 2024 green bond, which we were able to tap several times, making it as liquid as non-green bonds. Looking back at the year, I am very satisfied that we managed to pick many conducive issuance windows despite a sometimes very volatile backdrop.

NRW.BANK

Daniel Wilson: Your strategic approach to the Australian market has seen you establish a new 5-year bond and return to the 10-year sector of the curve for the first time since 2018. Can you discuss the factors in maturity selection, particularly for the 5-year benchmark, and was any alternative maturity an option?

Frank Richter: Our overarching philosophy is to issue only if we are confident of meeting investor demand. Of course, their appetite is a function of relative value — whether the curve is steepening or flattening, RBA forward guidance, spread versus Australian Government Bonds, and so on.

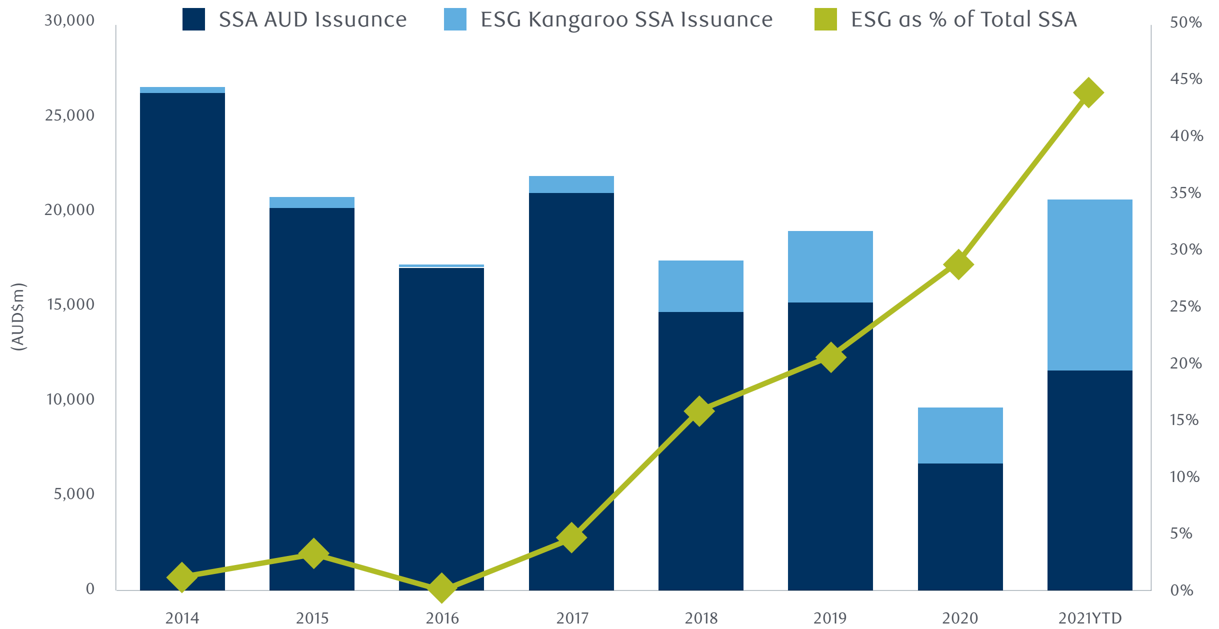
In front of the 5-year transaction, we debated intensely with syndicates and together identified the belly of the curve as the sweet spot. I remember that some bankers advocated the 3-year maturity, but that was not an option for us since we already had liquid points on the curve for 2023 and 2024. From our perspective, a 2026 maturity made the most sense. Hindsight is always 20/20 — nevertheless, we are very happy that our decision played out so nicely. With 25 orders, the book showed an unusually high granularity.

This transaction also prepared the ground for the 10-year transaction that followed in April. Both transactions were tapped once to A$600 million and A$125 million outstanding respectively.

ESG AND SUSTAINABILITY

Daniel Wilson: Total issuance of ESG Australian dollar debt has now surpassed A$19.7 billion, over double total issuance in 2020 of A$8.7 billion, with SSAs making up a large portion (54%) of this total supply. ESG Kangaroo SSA supply is at a record A$9.0 billion year-to-date, already ahead of total supply in previous years and accounting for 45% of all SSA supply year-to-date versus 21% in 2019, which was a record year for the market. The underlying demand from both domestic and offshore investors for ESG paper has been the driving factor in this significant growth in supply, with real money investors becoming increasingly focused on ESG and playing key roles in transactions. These demand dynamics have made the Kangaroo market an attractive option for issuers who have been able to achieve larger transaction sizes and increased investor diversification.

KANAGROO SSA ESG ISSUANCE VERSUS TOTAL KANGAROO SSA ISSUANCE



IDB

Daniel Wilson: IDB Invest can issue under a Green, Social and Sustainability framework. Can you talk us through the decision to use the Social framework for the 5-year Kangaroo? And more recently the 10-year Blue Bond?

Eusebio Garre: We wanted to set up a strict use-of-proceeds, Green Bond and Social Bond Principle aligned framework which could cover most, if not all, of our future debt issues. Our Sustainable Debt Framework includes a wide range of green and social projects in eleven distinct categories and allows us to offer investors multiple products. These include benchmarks bonds, private placements, local currency bonds, green bonds, social bonds, sustainability bonds, and even sustainable commercial paper, a product we intend to launch in the future. Adhering to global best practices is important to us, because we advise many clients on their green and social bond issues, and we believe in 'walking the talk'. That's why we also request a second party opinion, from Vigeo Eiris, for example. Given all that, choosing to issue our inaugural Kangaroo bond as a social bond was an easy call, which was confirmed by the strong interest in green and social bonds we saw during the inaugural roadshow.

Daniel Wilson: As the ESG landscape continues to evolve, can we expect to see any new 'themed' issuance from IDB invest in 2022?

Eusebio Garre: In 2021 we issued a sustainability bond, a gender bond, and three green bonds: a decarbonization bond, a transition bond, and a blue bond. Gender, Diversity and Inclusion, and Climate and SMEs are three big pillars of our institutional strategy, and I'd expect the themes of future IDB Invest bonds to reflect those pillars. Besides larger sustainability, green and social bonds, I could see more blue bonds, a diversity bond or even a silver bond as possible themes for IDB Invest issues, depending on how our project pipeline evolves.

EIB

Daniel Wilson: 2021 has been the largest year for the EIB Sustainability team funding in the Kangaroo market, achieving A$2.375 billion across both the Climate Awareness and Sustainability Awareness framework. What has contributed to your success in 2021 and how has this differed from previous years?

Dominika Rosolowska: Indeed, 2021 has been a record year for the EIB in terms of sustainability funding in the Kangaroo market. This, of course, was achieved against a market backdrop that was supportive to SSA Kangaroo issuance more broadly. Still, Climate Awareness Bonds and Sustainability Awareness Bonds (CABs and SABs) have accounted for the lion's share of EIB's overall Australian dollar presence this year.

We see this very much as a demand-driven development. Investor focus on sustainability has clearly been growing over the past few years, as has been the importance of policy initiatives in this area, both at national and international levels. EIB's experience — including with the early application of EU Taxonomy and Green Bond Standard regulations — has been the main subject of our dialogue with the market in 2021, given investors' interest in these aspects.

This also shows that initiatives taking shape here in Europe gain resonance globally, just as international dialogue in this area is intensifying — particularly in the fora of the International Platform on Sustainable Finance (whose Common Group Taxonomy, a first official milestone towards more comparability in green finance, was published around the COP 26 in Glasgow) and the G20 Sustainable Finance Working Group.

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DOMINIKA ROSOLOWSKA

Daniel Wilson: Over the past year, EIB has continued to build out its CAB/SAB curves, establishing the new July 2027 and February 2036 bonds, while also increasing your November 2024, February 2028, and May 2030 bonds. The July 27 CAB line in January was the largest single-tranche Australian dollar SSA this year, while the A$200 million February 2036 bonds represented the first public benchmark transaction in this sector of the Kangaroo curve. What factors do you think led to the success of each of these respective transactions?

Dominika Rosolowska: Here again I would point to the demand from investors with a commitment to sustainability, as it has been truly key to our endeavors in the Kangaroo market. In fact, the Asia Pacific region — where we place most of our Australian dollar bonds — has been, after Europe, the largest source of new investors for our CABs and SABs this year. Issuance at the longer end of the curve (2030 and 2036 lines) has been driven primarily by interest out of Japan — as has often been the case historically. Shorter-end transactions, on the other hand, saw strong participation from bank treasuries and official institutions, whose attention to sustainable investment has been growing. In the case of the new A$1.25 billion CAB due in 2027, seizing the first issuance window in January proved helpful in attracting broader investor interest after a year of relatively scarce Kangaroo issuance — be it in conventional or socially responsible investing format.

Daniel Wilson: Historically, you have focused benchmark issuance in the 'belly' of the curve to the CAB program, with only one outstanding SAB line in the Kangaroo market. Has this been driven by the amount of funding required under the two programs, or have you seen more demand for the CAB program from investors at this point on the curve? And do you see this changing in the future?

Dominika Rosolowska: Given that the EIB has been issuing CABs regularly since 2007, they have become somewhat of an EIB use-of-proceeds 'flagship' product, with which most investors are well acquainted. Sustainability Awareness Bonds were first launched in 2018 to complement CABs on the spectrum of environmental and social sustainability.

Issuance of CABs and SABs is driven by the volume of loan disbursements to which proceeds may be allocated. CAB and SAB loan eligibilities are being gradually extended, under the two umbrella frameworks, as a growing portion of EIB's lending activities are mapped according to the framework set by the EU Taxonomy Regulation, and as the infrastructure for tracking proceeds and reporting is put in place. A series of such extensions has recently been implemented for the SAB — for example to Health Emergencies Response and Preparedness Capacity (2020), Protection and Restoration of Biodiversity and Ecosystems (January 2021), and Access to Social and Affordable Housing (October 2021). As a result, SAB-eligible disbursements have been picking up, increasing our appetite for SAB funding. We will therefore continue to explore new SAB funding opportunities from January on, also in Kangaroo format.

Daniel Wilson: While A$2.375 billion is a relatively small percentage of EIBs overall Sustainability funding program, how important is both the investor and currency diversification to EIBs Sustainability funding program?

Dominika Rosolowska: This year, the Australian Dollar has been EIB's third largest currency for sustainability funding. Trailing only euros and US dollars, it contributed around 15% of overall CAB/SAB-volume of over EUR10 billion equivalent. As you pointed out earlier, this year the bank managed to refresh its full Australian dollar sustainability curve, across 2024-2036 maturities.

In that sense, 2021 has clearly been exceptional. However, it did not happen overnight, but was rather a reflection of the importance the EIB has attributed to the Kangaroo market as a funding source over the years, and also in the CAB/SAB formats. We are looking forward to continuing this engagement. And meanwhile, we would like to take this opportunity to thank all our investors for the trust and support which made 2021 such a strong year for Kangaroo CABs and SABs.

KBN

Daniel Wilson: KBN met virtually with several Australian domestic investors earlier in the year to discuss the bank's overall funding program, as well as the green program. Your inaugural green bond issued in 2018 was 5-year. Were there any notable differences in the investor make up in the recent 3-year issue? How do you think the investor work undertaken earlier in the year contributed to the overall outcome of the trade?

Evan Rodger Morgan: As you mentioned, the ESG market in Australia has developed significantly in the years between our first Australian dollar green bond and this year. In saying that, when we compare the books from 2018 to this year's trade, the make-up is relatively similar. Both books saw strong support from our key Australian dollar investors. We saw it back in 2018, but the dynamic also holds true today; the green label continues to drive increased investor focus, more diversified books and, generally, the average ticket size is larger than with a regular or non-ESG labeled bond.

The investor work we completed earlier in the year was a great opportunity for us to not only give a general update on the credit, but also to present our updated Green Bond Framework (updated in April 2021). Our previous Green Bond Framework was from 2016 and obviously, things have developed in the space over the last five years. This roadshow allowed us to update investors on the new Framework, and to present it to some investors who did not participate in our inaugural green bond.

Daniel Wilson: Could you see KBN becoming a more regular issuer in the Kangaroo market under your green program?

Evan Rodger Morgan: KBN has been issuing public green bonds since 2013. We have been active in the US dollar, Norwegian krona, Swedish krona, Canadian dollar and Australian dollar markets. Our goal with green bonds is to focus on markets where there is a clear ESG focus from investors, and as with our regular funding program, we try to build a liquid curve in the markets we enter. The Kangaroo market is a key market for KBN and no doubt we will be looking to issue more green bonds as the market continues to develop. It must be said though, that despite being the fastest growing portion of our lending book, green lending still only makes up around 10% of our lending portfolio, so our green issuance is limited.

KfW

Daniel Wilson: KfW has had great success in 2021, growing the July 2024 line to the largest current outstanding green bond in the Australian market. Do you think investor attitudes towards ESG products, and green bonds specifically, have evolved?

Lars Ainsley: Having the largest Kangaroo green bond currently outstanding is a big success and very pleasing to us. It underscores how much this market segment has gained in importance recently and that the Australian market is picking up with other markets. Being a well-established issuer with excellent investor access around the globe, I'm excited to disclose that we found several new investors in 2021 for our Kangaroo green bond outings. Generally speaking, ESG is front and center when we talk to investors, and the number of investors we are able to classify as green has grown rapidly in the past 12 months.

Daniel Wilson: Feedback from RBCCM's Australian ESG Investor Survey revealed that 41% of investors believed there was insufficient supply in green bond format. Do you have plans to establish any new green lines in the Kangaroo market in 2022?

RBC ESG SURVEY RESULTS:

To what extent do you agree: There is sufficient supply across these products

	Insufficient Supply	Neutral	Sufficient Supply	Supply 2021	Supply YOY Δ
Green Bonds	41%	41%	18%	A$ 9.5bn	+169%
Social Bonds	45%	48%	7%	A$ 3.4bn	+120%
Sustainability Bonds	41%	48%	11%	A$4.9bn	+33%
Sustainability-Linked Bonds	48%	45%	7%	A$ 1.9bn	+100%

Lars Ainsley: I'm very glad to hear that a large number of investors are asking for even more supply, and on behalf of KfW I can assure you that our commitment to the green bond market remains strong. For 2022 we intend to offer new Kangaroo green bond lines to satisfy the growing demand. Moreover, we will continue to use several channels to act as a catalyst for further development in the green bond market as a whole.

NRW.BANK

Daniel Wilson: The Social Bond was your inaugural offering in the Kangaroo market under your ESG program. Can you discuss what made you look at the Kangaroo market for this format? How was the program received by investors? And has your experience in the Kangaroo market been similar to other jurisdictions?

Frank Richter: Well, very good question. As I've already said, themed bonds are in high demand globally. Nevertheless, we recognize that progress in integrating ESG factors into investment decisions differs from region to region. Obviously, Europe is in a leading position. Here, investors find a broad and liquid green bond market. The social bond market, due to its nascent status, is lagging behind a bit. What investors appreciate is transparency; they not only want to know what issuers are doing with the bondholder's money, the buy-side also wants to know what has been achieved with their money. I do not exaggerate when I say that NRW.BANK is acting as a pioneer in these markets. Our track record on the green side dates back to 2013. In 2020, we established our social bond program.

The second most developed labelled bond market is the Kangaroo market. Here, market participants acknowledged earlier than elsewhere the added value ESG Bonds offer. Yes, coupon, risk and liquidity are important and determine yield and spread, but green or social ingredients are increasingly influencing the traditional triangle.

The second most developed labelled bond market is the Kangaroo market. Here, market participants acknowledged earlier than elsewhere the added value ESG Bonds offer. Yes, coupon, risk and liquidity are important and determine yield and spread, but green or social ingredients are increasingly influencing the traditional triangle.

FRANK RICHTER

With social bonds, we thought, we have the right product to place in the Kangaroo market. After launching our inaugural social transaction in 2020 in euros, we decided to also enter the Kangaroo market in a social bond format.

In terms of how the program was received by investors, first, both transactions were astoundingly successful. The quantity and quality of the order book was outstanding. Given COVID-19 constraints, a deal-driven roadshow was not an option. Instead, we decided to use global investor calls as a channel to familiarize investors with our concept. Let me briefly recap the cornerstones:

- The program is based on the International Capital Market Association's social bond principles
- A Second Party Opinion (SPO) is available
- Impact reporting will be published in 2022
- Projects are focused on:
  - Affordable home ownership
  - Employment
  - Education
  - Access to public goods & services in disadvantaged municipalities

Secondly, there was a debate about thresholds. Some investors, for example, found our affordable housing program with a maximum taxable income threshold of EUR75,000 a year per couple to be too generous. And I agree, at a first glance it looks generous. But given that prices in the property market have exploded over the last few years, many (young) families have been priced out of the market in fast-growing sub-regions with a high population density. Furthermore, Germany is a G7 country, and North Rhine-Westphalia is located in the middle of Europe. It is clear that living standards and wealth are high in comparison to emerging countries. Nevertheless, investors understood that we also have to deal with inequalities in the developed world. Those who followed our mission participated in the transaction, whereas those who have a stricter mandate limited to emerging economies observed the transaction from the sidelines.

Daniel Wilson: Thank you for the fruitful debate around the social bond concept. Perhaps even if not everyone was convinced by NRW.BANK's social bond program its success shows the importance and need to support regional social projects.

In conclusion, while 2021 clearly produced its challenges over the course of the year, the ongoing evolution of the ESG sector in the Australian market is a key highlight with the market continuing to reward issuers who are nimble and able to move quickly when opportunities present. I would like to say thank you to those investors who support the Kangaroo market and to the issuers for their ongoing trust in the Australian market.

HEALTHY DEMAND DRIVES MAPLE SSA ISSUANCE TO AN ALL-TIME HIGH

The Maple market experienced another strong year in 2021 and saw a record year of issuance with C$9.9 billion completed, up 41% on the back of a historical 2020. Attractive funding costs proved highly appealing for SSA issuers looking to diversify their borrowing by issuing in Canadian dollars, with many returning to the Maple market after a long absence. Demand for these issues was healthy from both domestic and international investors, and an increased ESG issuance aligned well with local investor demand. As well as green bonds, issues of other themes such as gender were well-received, and this trend is set to continue with other thematics including blue, health, education and water. Looking forward, SSA issuers continue to focus on their core markets in USD and EUR for benchmarks but remain keen to explore maintaining a presence in other key markets such as GBP, EUR, CAD and AUD whenever pricing levels permit.

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FUNDING PROGRAMS

Jigme Shingsar (RBC): Aldo, are there any comments on the EIB's funding program for 2021 and whether it met expectations? Was it smaller or larger than expected?

Aldo Romani (EIB): At the time of this roundtable, the EIB has reached EUR55 billion in issuance for 2021, returning to a more organic level of funding. Compared to 2020, this is EUR15 billion less. From the point of view of the strategy, everything has gone according to plan - following a well-established diversification approach by product, currency and tenor. In terms of maturity, we have gone on to lengthen the average maturity slightly. Most of this maturity lengthening has been achieved via distribution in Europe.

One aspect that can be highlighted is that we have now reached roughly 20% of our total issuance in Climate and Sustainability Awareness Bonds. Thus, the jump that we saw last year has been consolidated and Sustainability Funding now stands as the second largest within the EIB's teams. This is the result of the strategy of progressive alignment with evolving EU legislation on sustainable finance that I highlighted in 2020 as well. The average maturity of this part of funding was around 10 years, the longest across the different funding products, highlighting the relevance of long-term sustainable investors in this segment. Also, the share of core currencies in this part of funding has decreased and more than 40% has been raised in non-core currencies. This demonstrates the growing interest of international investors and local markets for this type of bonds and the value of the strategy that we have been pursuing.

Jigme Shingsar (RBC): Aldo, are there any comments on what you are looking forward to in 2022?

Aldo Romani (EIB): We believe that the current pattern is more or less going to continue. Notably, Europe is currently in the middle of a transition phase in regards to the upcoming first wave of sustainability taxonomy and this has a number of practical impacts in terms of assessing what is the state of things within an institution like ours, that is expected to spearhead the application of the EU Green Bond Standard. Namely, with regard to the lending activities and their classification. As such, we are currently in this discovery process and this affects the decisions that will go into the implementation of our strategy next year.

Going forward, we look to the first week of the year to gain an early confirmation from the international investor community as to its stance on our ongoing course of action. In certain markets, namely in the Canadian and Australian dollar markets, we have been quite large this year. Based on the interest that we have unveiled, we hope that the activity in these markets continues to unfold.

Jigme Shingsar (RBC): André, could you provide any insight on your funding program this year and your outlook, to this regard, for next year? Also, could you discuss if there is any notable new activity at the institution?

Andre Delgado (IADB): This year we completed our borrowing program with USD 24.3 billion issued, which is approximately 2 billion less than in 2020. It is important to notice, that 2020 was a record year for our borrowing program with USD 26.8 billion issued. We continue to diversify in various currencies, the US Dollar being our main currency of funding. This year we have issued four U.S. dollar benchmarks, which is in line with what we have been doing in recent years. Also, we have been active in other strategic currencies, notably the Australian dollar, Pound sterling, Canadian dollars, and New Zealand dollars.

For 2022, we expect the borrowing program to be between $20-24 billion. We expect the program's composition to remain similar with the U.S. dollar remaining the main currency. However, the second largest currency of issuance can change depending on market conditions. We will continue to further diversify with issuances in emerging market currencies, which we are open to become more active. Finally, in terms of new developments, we have created a SOFR curve that goes all the way to the 10-year maturity. We were historically active in FRN issuances until 2019 with 2020 being a transition year into FRN SOFR issuance. In 2021 we noticed that SOFR FRN allowed us to issue larger sizes and in longer maturities.

Jigme Shingsar (RBC): Maria, any comments on your funding program for this and next year? Furthermore, has there been any notable new developments?

Maria Lomotan (ADB): The funding program for 2021 was similar to that of 2020, which at over $35 billion, was a historical high for ADB. Diversity was a key outcome in 2021, in terms of funding across currencies and themes. ESG products were meaningful contributors to the funding program in 2021. We issued over US$5 billion in green, blue, health, education, gender and water themes. This is historically the highest we have ever issued in thematic bonds. Maiden issuances in 2021 included the blue and education bonds. We also issued gender bonds on a syndicated basis and did this in AUD, CAD, KZT, NZD and NOK. The US dollar benchmark anchors our funding program and this remained in 2021 albeit it accounted for less compared to 2020. Responding to meaningful demand, we issued our largest ever USD global benchmark at US$5 billion and on a dual-tranche basis, equally ADB's largest at US$5.5 billion.

We issued over US$5 billion in green, blue, health, education, gender and water themes [in 2021]. This is historically the highest we have ever issued in thematic bonds.

MARIA LOMOTAN, ADB

For 2022, we expect the program to be relatively comparable in the range of US$34 to US$36 billion. We will continue to issue strategically in US dollars, pursue opportunities that will enable us to deepen and extend our curve in currencies such as AUD, CAD, EUR, GBP and NZD, and remain receptive to demand for ESG products.

Jigme Shingsar (RBC): Randy, any comments on how the funding program went this year and what are you expecting to do going forward?

Randy Ewell (World Bank): We are on a fiscal year basis going from July 1st to June 30, so that puts us nearly midway through our funding year. Last year, due to COVID we had our peak issuance year. In FY20 we issued 74 billion bonds. Last fiscal year we did nearly 68 billion and this hear it seems issuances will stabilize and we expect to do between US 50-55 billion. Currently, we are halfway through our needs as we are approaching the middle of our year. We have continued course as we would traditionally fund with regard to currency mix and products. We have been more active in SOFR and dollar benchmark issuances. The notable issuances so far this fiscal year was the 5 billion 10-year transaction as well as the 2 billion 25-year euro bond. We have also been active in Australian and New Zealand dollars recently. We should make clear that our funding team represent the funding program for both IBRD and IDA. In the case of IDA, the funding program is growing significantly having done 9.5 billion recorded last year and with 10+ billion expected to be done this year. The amount will be driven by disbursements. Going forward, we are eager to see the IDA funding program continue to grow, as with a strong rating it is has seen a good take-up by investors. Currently, our focus has been to build out liquid curves in the core currencies while also looking for opportunities for IDA in new markets and currencies. Notably, this year we added the Norwegian Krone for IDA, which now makes 5 currencies that IDA has done. We are looking for IDA to enter the Canadian dollars as well.

Jigme Shingsar (RBC): Piet, any comments on how the funding program went this year, did it go according to plan, and what are you expecting to do going forward?

Piet Jurging (KfW): It has been a fantastic year with a record refinancing volume of 82 billion euros. This is slightly higher than our original target of 75-80 billion. In terms of highlights, firstly, we doubled our green bond issuance to over 16 billion this year. This includes our first Canadian dollar green bond. Also, we expanded our Euro benchmark curve from 10-years to 15-years. Secondly, we had our first issuances in SOFR and SONIA this year. This makes us active in our three major currencies, which are Euros, Dollars and Sterling. We also strengthened the strategic position of the U.S dollar market which, after last year's decline due to the pandemic, we were able to issue 50% more in public U.S. dollar bonds. We would like to note that we were active every quarter with a larger size transaction, which is one of our main objectives for the U.S dollar market.

We doubled our green bond issuance to over 16 billion this year. This includes our first Canadian dollar green bond.

PIET JURGING, KFW

Jigme Shingsar (RBC): Piet, when you looked to fund all these different markets, how did you benchmark your funding activities? Are you considering the costs, the relative costs, diversification, or any other factors in your decisions?

Piet Jurging (KfW): We look to benchmark against our euro curve. For CAD we will have a look at the U.S. dollar reference as this could potentially attract U.S. dollar investors as well. In order to diversify away from Euros, there is a basic willingness to pay up a bit versus our Euro curve, in case we can do something in USD, CAD or other currencies.

Jigme Shingsar (RBC): Piet, would you then allocate Canadian dollars in the category of semi-strategic currencies? In other words, it is strategic enough that you will value its diversification qualities, but that it would not be used a pure arbitrage currency?

Piet Jurging (KfW): Indeed, our funding volumes in the Canadian dollar have been on-and-off for most of the years. However, as we reach out to different investor bases, here we have the chance to pay up slightly versus the euros.

Jigme Shingsar (RBC): André, considering you have been quite active in Canadian Dollars and that you are potentially expanding into other currencies, how are you benchmarking your funding activity? As an example, do you focus primarily the dollar curve, or do you get points for diversification or capacity management?

Andre Delgado (IADB): Indeed, we do benchmark our issuances versus the U.S. dollar curve, and we also look at what spread we are providing in terms of value for investors based on the local benchmark. In the Canadian dollar market, we increased our presence in 2021 as compared to 2020. IDB currently has CAD 5.1 billion in bonds outstanding in maturities up to 6 years. As mentioned, we monitor the spread versus the local benchmark, and our bonds offer a pickup relative to Canadian dollar government bonds and are repo eligible with Bank of Canada. Our most recent issuance was the CAD 750 million 5-year bond that was issued back in July last year. This bond met with a larger than expected investor demand, allowing the bank to issue its largest Canadian dollar denominated single-day global benchmark. We will continue to look for opportunities in the Canadian dollar market in 2022 aiming to providing value for the investors.

We will continue to look for opportunities in the Canadian dollar market in 2022 aiming to providing value for the investors.

ANDRE DELGADO, IADB

Jigme Shingsar (RBC): Maria, considering you had a larger funding program over the last 2 years, how do you benchmark your funding activities globally?

Maria Lomotan (ADB): ADB is principally a US dollar-based funder so funding prospects are referenced on an after-swap basis vs USD and generally guided by levels in the USD global benchmark space where we can issue cost-efficiently in size and across tenor. Over the years, we have cultivated a following in certain non-USD currencies that have merited a strategic approach, in terms of issuance size, more points across the curve and so we have been relatively more flexible when looking at such opportunities, especially given the larger funding program. This has resulted in having more liquid and on-the-run issuances in AUD, GBP and NZD.

Jigme Shingsar (RBC): Maria, how was your return to the Canadian dollar market after a long absence? How was your experience and what are the implications for your plans to move forward in the currency?

Maria Lomotan (ADB): The last time ADB issued in CAD was in 2015 so the experience in 2021 after such an absence has been very positive and affirming. We had three outings and the issuances garnered over 100 investors with over half, domestic, who we have not generally seen in our mainstream currency issues. There was also strong reception to having the green and gender labels which were very gratifying, as they enabled issuance of larger volumes than perhaps would have been possible otherwise. The total size we raised in CAD in 2021 was CAD2.35 billion, eclipsing the total combined size issued by ADB prior to 2021, a testament to how much deeper the CAD market has evolved. We are hopeful that we will remain engaged and responsive to the CAD market and that it will be a meaningful contributor to our 2022 funding program.

Jigme Shingsar (RBC): Randy, with you being active in Canadian as well as across a range of different market, how do you benchmark your activities from a macro perspective? Also, would you have any needs anywhere and how has the Canadian market worked out for you this year?

Randy Ewell (World Bank): In terms of volume our funding program is predominately in US dollars. This is typically anywhere between 60-65% of our funding in a given year. That being said, we value the diversity of our funding sources, and we look to stay present in markets and look for opportunities to enter into new markets including very niche ones. This is partly because, where possible, we see supporting the development of some of these markets as part of our overall development mandate and mission as an institution. In the case of the Canadian dollar or any market, we do tend to benchmark to US dollar. We have been a regular issuer in Canada, made noticeable by this being our 10th consecutive fiscal year that we have been issuing in CAD dollars. Indeed, if you look as far back as 1984, we have been a regular issuer in CAD and 1984 was marked by us issuing the longest ever bond. This was a 99-year bond that matures in 2083. As such, we have a clear focus towards trying to extend the duration of our borrowings and to that extent can show some flexibility in pricing versus our benchmark curve when we see clear opportunities to extend duration.. Indeed, we see it as a prudent way to move forward, especially to match the other side of our balance sheet, where we lend out 20 years and more. For us, this is an appropriate way to manage refinancing risk whilst also maintaining a smooth redemption profile. With regards to CAD, we have been very committed to the Canadian dollar market and will continue to be going forward.

Jigme Shingsar (RBC): Aldo, you funded in a lot of different markets. You have previously mentioned an increase in some of the local markets, particularly linked to your ESG focused issuance. How does the EIB benchmark all of these activities across the markets? How do you value diversification, duration, and so on? How does Canada fit within that framework?

Canadian dollars was our 6th currency overall, but our 4th currency with regards to Sustainability financing.

ALDO ROMANI, EIB

Aldo Romani (EIB): We have two components that are strategic in nature. One is of course the relative cost of funding alternatives. The other is the fact that the Board (European Commission and Member States) has urged EIB to act as an ambassador for European sustainability standards worldwide. So there is definitely an extra interest in the area of sustainability that keeps us busy with the monitoring of multiple markets and the development of the local investor base, who pays increasing attention to the EU initiatives in this field.

This was clearly reflected in the Canadian dollar market this year, where we issued C$1.7 billion in total, and of this, C$1.6 billion was issued in Climate Awareness Bond format. I believe that around 43% was allocated to domestic investors. So clearly we have a strategic interest, and whenever there is an opportunity to issue, we go. This has been equally pronounced in Australian dollars, where we issued more than 60% of the total in CAB/SAB this year. I believe Canadian dollars was our 6th currency overall, but our 4th currency with regards to Sustainability funding. Australian dollars was our 4th currency overall, and our 3rd currency in Sustainability format.

In summary: we, like everyone else, benchmark what is possible in a market against what we can raise in another. However, there is an additional element of policy in our diversification which is stronger than elsewhere because of EIB's international engagement for more clarity in sustainability. As you know, there are very strong efforts in this direction.

Jigme Shingsar (RBC): So you [Aldo] would look to extending that Canadian dollar success going forward?

Aldo Romani (EIB): Yes, let's say that we would like to do that as much as possible. The timing of our actual recourse to the market is of course made tricky by the short windows of opportunity, which are conditional upon relative financial attractiveness. At the same time, I should like to stress our desire to deepen the dialogue on sustainability with Canadian investors in an ongoing manner.

Jigme Shingsar (RBC): Thanks. Piet, we talked about how you benchmark your markets with regards to Canadian dollars. You've issued recently. Can you talk a little bit about that experience and how it fit into the program and what you think the prospects are for you to potentially come more frequently in Canadian dollars going forward?

Piet Jurging (KfW): Our last experience was quite good, as we had a domestic investor share of 40% and a green bond share close to 80%, so those are definitely 2 very good arguments to be active again in 2022. There is still a question on if it will be a green bond or not. This will all depend on our green loan program. So it's too early to tell if it's a green or not, but definitely very keen on issuing again in the Canadian dollar market for us next year.

Jigme Shingsar (RBC): So what's the main challenge in terms of being able to realize that ambition? Is it just the levels, or just overall demand?

Piet Jurging (KfW): Demand can definitely be an issue, so the green angle would definitely help in case we were to come again in Canadian dollars. Typically we want to issuer a larger sized, liquid bonds, meaning that the minimum size should be C$1 billion dollars because of that. I guess for the Canadian dollar market, it would be better to issue in green again. Definitely helps to bring it above this C$1 billion threshold. Last year had been actually a year in which we had more than one opportunity to come to the market level wise, but the competitors are usually quick to react to those nice levels as well. It's a competition and we just managed to be in the market just once. Hopefully, we will be quicker next year.

Jigme Shingsar (RBC): Randy, what are your main challenges in terms of the market? Is it, similar to what Piet said, that windows get crowded? Or is there still some sort of developmental aspect to the market that you are still working on?

Randy Ewell (World Bank): We feel that we've enjoyed a lot of success in the Canadian dollar market. I would note that, as you said, there was a lot of new supply last year that gave us fewer opportunities than we had previously enjoyed in the past. So clearly there is increased competition. So we have to be a little bit more nimble on our side and try to keep up with investor interest and working to take advantage of some of those windows when they present themselves. But we felt happy with the results of what we've done in the Canadian dollar market. So, no real issues to report. At the moment, it seems like some of the opportunities are a bit less. That's the case across a lot of non-dollar markets and we will continue to monitor that and look for opportunities to go in. For IDA as an issuer, Canadian dollar is something we want to approach in the not too distance future and add CAD as a new currency to IDA's funding mix. We've already done some fairly extensive outreach with investors to explain the strength of our balance and IDA's mission and we hope to have an opportunity soon.

Jigme Shingsar (RBC): Andre, in terms of frequency, you're right up there in terms of capital markets to access over the last 3 years. Any comments in terms of the challenges you faced or are you happy with what you've done?

Andre Delgado (IADB): I would say the main challenge for us has been the cross-basis into USD as we swap our issuances into US dollars. So, we rely on swap markets to be conducive for one side to allow us to issue something that makes sense to our funding strategy and on the other side to also offer value to investors.

Jigme Shingsar (RBC): Aldo, Any negatives in terms of your experience coming into Canadian dollars that would impact your issuance or do you think there's potential for more growth there for you?

Aldo Romani (EIB): I think there is further potential, definitely, despite the fact that this is a market that is well attended by many strong issuers in competition with each other. As mentioned, we are very much focused on the coherent development of our strategy of clarification as to how the proceeds of CAB and SAB are allocated. This goal is being pursued via progressive alignment with evolving EU legislation on sustainable finance, in close dialogue with investors.

This in a way is a positive drive towards more transparency overall, which we hope may develop our franchise further. In the end, if the market only has certain windows of opportunity and everyone's looking for them, investors need a reliable way to compare relative value. Commitment to accountability in the allocation of proceeds can turn into a competitive edge with strategic investors interested in this aspect.

Jigme Shingsar (RBC): Maria, you came back in style with a very strong green bond and follow-on issuances. Do you feel that you can replicate that? Or did you notice something that would impact your ability to repeat that success?

Maria Lomotan (ADB): As mentioned previously, we need to look at levels on an after-swap basis vs USD so the basis remains an important factor in the replication of the 2021 achievements in the CAD market. That said, the strong outcomes in 2021 were primarily supported by having the green and gender labels. Thematic issuances appear to resonate to a wider investor base. ADB continues to have a robust pipeline of ESG-related projects so we remain open to such issuances. It would be interesting to see if larger issue sizes can be achieved without an ESG label.

Jigme Shingsar (RBC): Okay. So it sounds very much like there's a lot of interest in issuing from our borrowers, but windows can get crowded and it's a little bit about capacity. I'll bring Alex in the conversation with regards to the macro perspective and whether we think capacity going forward is growing, and whether there's more investor globally.

Alex Caridia (RBC): Yeah, sure, Thanks Jigme. Just to give some context on the market in terms of volume, it's been a great year for the maple market. We're sitting at just shy of C$10 Billion in terms of issuance, and that's coming from around, about C$7 billion last year. So, about a 30% increase. Volumes have been growing since 2018 now. Obviously, in the context of other markets like Euros or dollars, the maple market is tiny. The entire year's issuance in maples could be raised in the Euro market with 1 issuer doing 1 issue. Having said that, with public sector issuance in Canada at C$140-150 billion of C$10 billion of that in maple format becomes more significant. The other thing this year has been the increased diversity of names obviously, Maria, as you mentioned, this is your first foray into the maple market for quite some years, but there's also been some other new names that have either never issued or haven't for some time, so that's been a really pleasing development.

There's also been some other new names that have either never issued or haven't [issued in the CAD market] for some time, so that's been a really pleasing development.

ALEX CARIDIA, RBC CAPITAL MARKETS

In terms of domestic participation, it's also increased quite a lot. We're looking at anywhere from 50 to 60% domestic participation on a typical deal, which has come up over the last few years. Prior to that, a lot of the Canadian issues were really driven by foreign money, central banks and the likes, and while we're still seeing a fair amount of foreign participation, particularly as Jigme you were alluding to, Canada being a higher yielding currency; in fact, the highest yielding currency in the G7 right now, a lot of the central banks we speak to are overweight in terms of, their base 2% allocation,. We are also seeing a lot of demand out of Japan, both domestic and for some of the maple issues, usually on a currency hedged basis. So I guess the diversity in terms of domestic and international participation has been really pleasing.

As everybody on this call has alluded to, the focus on SRI from the Canadian investor basis has really been growing, and Canada has been slightly unusual in the sense that we've seen greenium in Canada, largely talking domestically now, for quite some years. If I look at the 2 provincial names that have been active in terms of issuing in green for quite some time in Canada, being Ontario and Quebec, in the secondary market, they've been trading anywhere from 2 to 6 basis points through their non-green in their secondary curve, and even in primary markets they're issuing anywhere from 1 to 3 basis points through. So that is a trend we haven't really seen in the U. S. dollars until recently, and I believe we haven't really seen that in Sterling either. So, I guess in some sense, some of those markets are catching up to Canada. It's been more the case in Euros for a little while, but, really, the domestic investor base has been growing quite dramatically. The last thing I'll mention in terms of the market is around liquidity. We've seen that the trading volumes in Canada have increase quite significantly over the last few years and bid-offer spread have also contracted. A few years ago, bid-offer spread in the maple market was anywhere from 3 to 5 basis points; we're probably talking 1-3 basis points now, so in the context of some other global markets, it's maybe a little bit on the higher side still but we've certainly come a long way. The one caveat of sorts is when the market turns more volatile as we've seen over the last month or so, liquidity tends to dry up quicker in maples than it does in other markets. And I've seen that over the last couple of weeks, there hasn't been much trading. Bid-offer spreads have widened more quickly than they have in other markets. But generally, I think the trend has been a positive one both in terms of domestic participation, international participation, liquidity, and volumes. It's all moving the right direction and hopefully, the market will continue to provide opportunities for the international issuer base going into next year.

Jigme Shingsar (RBC): Just staying on the CAD theme, I mean, we're obviously focused on the Maple market, but just for the global CAD demand in general. I mean. Maria, for example, you've done some CAD private placements, again, with an SRI sort of focus, are you seeing more of that kind of inquiry generally?

Maria Lomotan (ADB): Yes- the interest in CAD has been demonstrated across formats but there remains a level of consistency in the preference to have thematic labels. We have issued CAD-denominated private placements over the past few years in gender and health. When such demand is coupled with syndicated maple trades, then CAD starts to be a meaningful contributor to our funding program.

Jigme Shingsar (RBC): Right, thanks. Randy, similar experience with you?

Randy Ewell (World Bank): As I mentioned, looking back at some of the stats, we've been fairly regular in issuing in Canadian dollar bonds. We've seen for some time fair bit of international interest. We haven't seen massive moves. You do get a bit of demand out of Asia and a lot of those are driven by SRI investors. We have noticed that highlighted awareness or themes can make a lot of difference and bring new investors and sometimes international investors. We've always more or less seen it but the interest has definitely grown.

Jigme Shingsar (RBC): Okay, thank you. Piet, just any comments on CAD demand in general and also, your experience with the investor base of whoever's bought your CAD issuance either in Maple format or otherwise, and whether you think that's a positive trend?

Piet Jurging (KfW): No, I guess I just have to repeat Alex's words. But at least when I'm looking at the Canadian dollar market, when I'm seeing, Canada housing, rising over 2% in 10s and with FX. The Canadian dollar is appreciating at least on a steady basis since the beginning of 2020. It's definitely a very interesting market and so it doesn't come as a surprise with the market growing by 30% to close to C$10 billion as Alex said. I think that speaks a definite language for the market.

Jigme Shingsar (RBC): Great, thank you. Andre, so who's been buying your issuance in CAD? Any friends there that you'd like to highlight?

Andre Delgado (IADB): Definitely a market that offers diversification on our side and, we are always happy to issue in Canadian dollars. We are happy and thankful for the reception we got from investors in CAD and going forward this is something to we are looking to maintain. I agree also with Alex comments, as it is a market that's going in the right direction for us, and we expect to continue to be active in 2022 in Canadian dollars.

ESG PROGRAMS

Jigme Shingsar (RBC): It so we've talked a lot about CAD and the obvious investor demand for supply in some sort of ESG or SRI format. I know that's just a big theme overall with all your institutions, and obviously it affects the way your institution behaves overall as well the composition of your finding program and ultimately your capacity to offer SRI bonds. Different institutions have thought about it in a different ways. So, why don't I start with Aldo since you're the pioneer of this market, with the first, climate awareness bond? I mean, it has certainly evolved from a project, or proof of concept to very much something that infuses the whole organization. What's changing and what's standing between you and being able to be pretty much do everything in sustainable format going forward?

Aldo Romani (EIB): This discussion on sustainability is, of course, a discussion with many angles and accountability is a challenge. In order to make the discussion more concrete, it is important to agree on the aspects of sustainability that everybody can agree upon, and not only within Europe, but also across the various parts of the world. For this purpose, a consensus-building process is ongoing and we all have to monitor it attentively. It is leading to more understanding as to what is really essential in sustainability and what kind of core indicators can be used to measure the actual contribution of our activities to those objectives that can be shared. In my view, this is a secular trend.

What can be accepted as sustainable and codified into legislation must be the result of an open dialectic process involving multiple stakeholders. There is naturally a lot of interest on all sides for what is being implemented in

Europe. The European Commission has structured a systematic and transparent dialogue on the subject, which has highlighted the value of institutional and legislative arrangements for a higher degree of comparability. The results of this public debate tell us clearly that not everything that has been financed so far is sustainable, even if it has been labeled as such.

In this context, it is a task of the European Investment Bank, the EU Climate Bank, to spearhead the application of the EU taxonomy and EU green bond standard. Now, if you look at this objective from a concrete point of view, it is clear that not everything is straightforward. If you really mean to address the substance while the clarification process is still ongoing, you have to put in place a very solid infrastructure first. In the essence, this means an operational framework and an external review that permit a systematic and reliable approach to classification, monitoring and reporting. It is not just a question of communication. What follows is an objective discovery process that you conduct with the support of the markets and that is dynamic in nature. The notion that something is sustainable or not is instrumental to the clarification of the status quo for the further promotion of sustainability via efficient investment decisions. It is part of a market-driven incentive mechanism. I think that the quality of the dialogue with investors has improved in a very systematic manner on this basis, they are not only paying attention to labels any more.

This development is beneficial to everyone, within and beyond European borders. Worth mentioning here is the first report on a “common ground taxonomy” that the International Platform on Sustainable Finance, of which Canada is a member, published during COP 26. A lot of the ideas that have been retained were indeed addressed by EIB jointly with the China Green Finance Committee in 2017, by way of a series of consultations in the market that involved all the institutions on this call. The results were published in a White Paper on the need for a common language in Green Finance that we contributed to the EC’s working groups on sustainable finance.

So, this is the essence of what I think is happening. I don’t think that everything that is financed today will be recognized as sustainable based on the upcoming externalized criteria. Some things will be recognized as not sustainable, others as simply not harming. But this will provide a further push in terms of a change in awareness that is badly needed for the actual promotion of sustainability in the economy. In this context, it is quite interesting that the frontier is moving now from clarifying what contributes substantially to sustainability to the classification of activities that do not, for their strategic treatment over time. It is a good step for the organic development of sustainable finance on solid ground.

Jigme Shingsar (RBC): Thank you. Piet, with KFW, green has become a big focus. In fact, Sustainability is big, big focus. I know the German government support for green has been a big driver of that. I remember when you were first considering green bond issuances and how quickly management focus grew on getting in front of this trend. So how does that impact your institution and your overall ability to provide ESG/SRI issuance generally?

Every Euro or dollar that is invested in bonds contributes at least to 1 of the ESGs, so theoretically, we have a way higher capacity to issue even more green bonds.

PIET JURGING, KFW

Piet Jurging (KfW): Yeah, okay so we started our green bond portfolio in 2014 and yes, 7 years later we reached a record funding volume of 16 Billion in this year, doubling from last year’s records, so that’s quite impressive. Just looking at KFW, more or less, the whole balance sheet potentially could be used for SRI insurances. So we have an environmental investment ratio of currently over 50%. Every Euro or dollar that is invested in bonds contributes at least to 1 of the SDGs, so theoretically, we have a way higher capacity to issue even more green bonds. However, we are just focusing on green bonds, so the framework is very straightforward. We could as well, issue in social bonds, but at least for KFW it is far more difficult when it comes to impact reporting. We get those questions quite a lot while we’re not issuing other bonds besides green bonds, but as of now and at least for next year, we will stick to just a green bond framework.

Jigme Shingsar (RBC): Okay, but what you're saying is institutionally, your sustainability percentage or component is very high and, I guess growing still, so your future capacity to offer SRI type issuance is pretty good?

Piet Jurging (KfW): Definitely. We just have to make changes to our framework, but we will stick to green bonds at first, for next year.

Jigme Shingsar (RBC): Great. Thank you. Randy, World Bank is also a pioneer in the green bond market and recently made a transition to the sustainable development bond fromat. Any comments on that and how that reflects the changes permeating the institution, and what that means going forward?

What we've done is try to help investors to understand our story of looking at things beyond simply green.

RANDY EWELL, WORLD BANK

Randy Ewell (World Bank): I guess so. You may have seen that we've had initiative recently. IBRD issues sustainability bonds -- what we call sustainable development bonds, or green bonds. So anything that's not a green bond is a sustainable development bond. For both IBRD and IDA, the goal is the twin aim of eradicating extreme poverty and boosting shared prosperity. Effectively, our mission is a social mission. And while we were one of the pioneers in the green bond market, you sort of run up against the problem of where when you're not issuing a green bond, investors could have a misconception with regard to what else you may be funding through the capital markets. And clearly, we had to tell a larger story. In the end, climate affects everything and it's also a social issue in a way. All of these things for us, poverty alleviation, climate matters, is about people. We know that climate issues affect the poor disproportionately. In many case it's people living in less secure circumstances who are affected by natural disaster zones, or low lying areas more susceptible to flooding for example. The World Bank takes a holistic approach. What we've done is to try to help investors understand our story of looking at things beyond simply green, as critical as it is. Climate is really something that is hard to isolate. Climate plays into everything that we do. So when we go through and work with countries, we discuss the projects, and before approval 100% of our projects are screened for climate risk and they often include climate components or climate co-benefits. It's really something that's a part of everything that we do. Conceptually, we could do more green bonds and have and have them allocated appropriately. We have the projects but maintain about 2% of our annual funding portfolio to be funded by green bonds. We tend to do green bonds primarily on a reverse inquiry basis as private placements. Again, we have projects to allocate to, but have taken the decision tell the story of sustainability and include the social aspects including climate for a holistic approach About 95% of projects we financed last year included a climate component, and about a third of our lending portfolio includes climate financing. So effectively, 33% of our lending by dollars were directed to climate and that's the message we wanted to explain to investors with regard to the World Bank's holistic approach. And so we'll continue to tell the story of sustainable development bonds from IBRD. We do have an impact report both for our Sustainable Development bonds and also separately for our green bonds. Of course, a subset of that goes down to the green bond and the allocations there for green bonds as well as some of the metrics, and the impacts of the reporting, the aggregation for that as well. But, the story really is to really sell the climate component of everything that we do. I think for us, I would just add, in the countries that we operate in, sometimes we can be very prescriptive about what is green and what is not green. But you can imagine when we're working in some of the countries that, some of the taxonomy can be quite rigid in terms of how they label and categorize things. Yet a small improvements in some of our countries of operations can make far larger global impact on climate change. We work on the ground with these countries and we are always working to include climate and make positive changes through our lending within the countries we work.

Jigme Shingsar (RBC): So, Randy, just to stay on that theme. How have investors embraced the notion that everything you do is sustainable – has it been well received?

Randy Ewell (World Bank): It's been surprisingly well received. We've heard a lot from investors that they do understand that there is a lot of 'ticking the boxes'. Increasingly we are seeing investors moves away from that. Where they have chosen to take a broader approach and want to understand everything good that we're doing Transparency is really the key and we aim to be transparent in what we do. We have the impact report. World Bank projects are quite open to the public and people may look and see progress on these projects. What are of the impacts and, of course, it's always complicated to aggregate this data and to show it across the different sectors especially in the social impact areas, but we aim to do that. We take investor feedback and try to incorporate it. We'll continue to do so going forward. But so far feedback has been overwhelmingly positive and investor seem to understand our approach I think investors increasingly understand that there's a lot of good you can do in a lot of areas beyond climate and green and so we have to keep telling that story and being as transparent as possible in terms of our impact reporting as we continue to develop it.

Jigme Shingsar (RBC): Right. Thanks Randy. Maria, how about ADB in terms of ESG? I know you pay a lot of attention to sustainable development goals and so on, and you've issued themes like gender, which have done very well. But you also mentioned your capacity in terms of your ability to issue green is obviously constrained. Do you see that changing over time in terms of how the institution is developing?

The various themes that ADB has offered - green, blue, health, education, gender and water - have all served to highlight ADB's policies and activities in these areas. We will continue to be responsive to investor demand for such issuances as they continue to be supportive of the SDG objectives.

MARIA LOMOTAN, ADB

Maria Lomotan (ADB): Poverty eradication remains a clear mandate for ADB and therefore the achievement of the SDGs is essential. The various themes that ADB has offered - green, blue, health, education, gender and water – have all served to highlight ADB's policies and activities in these areas. We will continue to be responsive to investor demand for such issuances as they continue to be supportive of the SDG objectives. Our issuance approach has been consistent in ensuring that our thematic issuances are guided accordingly by the pace of disbursements. That said, sustainability is an aspect that is represented across all of ADB's projects regardless of the label, so there are really no constraints in terms of issuances supporting sustainable development given our significant funding and lending program.

Jigme Shingsar (RBC): Andre, IADB issued your first syndicated sustainable development bond in CAD. That was nice to see. How do these things go through the organization and then show up at your funding program, and what does that mean in terms of your capacity to issue more, and will you issue more theme bonds or just purely sustainable going forward?

Andre Delgado (IADB): At IADB, all our projects are sustainable and that they impact at least one SDG with many projects impacting multiple SDGs. So, in that sense, we developed the sustainable development bond framework which may highlight projects associated with a specific SDG, but we can also issue as a generic SDB highlighting the sustainability in our projects in general. For each of our projects, there is an environmental and social strategy as well as an environmental and social assessment. The SDB framework was developed with that in mind. In addition to SDB, we also have the EYE Bond Framework, which is purely social and focused on projects in the fields of education, youth and employment which is where the acronym came from. We have also seen quite an increase in interest in both SDB and EYE bonds. For instance, in 2021, 38% of the issuances were done in one of these frameworks. Issuances in 2020 also followed a similar trend with around 31% in SDB or EYE format. As for reporting, we agree, it is a challenging and going forward we are looking into ways to improve and streamline the process, producing the report faster and to some extent making it nicer.

We agree [reporting] is challenging and going forward we are looking into ways to improve and streamline the process, producing the report faster and to some extent making it nicer.

ANDRE DELGADO, IADB

We also made announcements during the COP26 regarding our aspirational targets: We are looking to align 100% of new operations of the bank with the Paris agreement by January 2023. We are also looking to deliver USD24 Billion in green and climate finance in the next 5 years. This is subject to approval by the board of governors, but those are bold announcements, in line with what we have already planned in terms of our vision for 2025 and our climate change action plan 2021-2025, both published in 2021. This will address complex realities in our region, Latin American and the Caribbean, which include planning for the recovery of the COVID impact and promoting a sustainable and inclusive recovery. We are also looking to have a climate change and sustainability specialist in every country. We have already increased our presence from 5 countries in 2020 to 15 countries in 2021, and we are aiming to have specialists in all of our 26 borrowing countries by 2024.

Jigme Shingsar (RBC): So, Andre, if you are able to comply with the very ambitious targets around the Paris agreement and all these other initiatives you've talked about, does that mean everything you issue will essentially be sustainable? And does that sort of make, for example, the Eye bond redundant in the context of your issues?

Andre Delgado (IADB): The EYE bond proceeds finance a very specific niche of projects, and we do have size constraints because the size of the projects in the fields of education, youth and employment tend to be small. So, on aggregate fashion that, each year, we have a limited amount we can issue, which we monitor closely to be in line with the size of the projects. For SDBs to some extent, we are more flexible, especially if we issue in terms of generic SDBs. So, I mentioned our projects are sustainable and we could focus on one specific SDG, depending on where disbursements occur in that particular year. When we issue a generic SDB we are less constrained in terms of the amounts we can issue each year. We do not have targets per se for issuing a certain percentage of sustainable development bonds, but we look to do in line with what percentage is allocated to our loans, as opposed to allocating it to the liquidity pool.

Jigme Shingsar (RBC): Right. Thank you. So, since we've talked about all the increase in themes of sustainability – Randy, you've issued sustainable bonds in Canada and elsewhere with different themes attached. How do you decide which themes you want to bring to the market? Is it just purely demand based, which I think everyone's seen in terms of private placements? When it comes to a larger benchmark type of issues, how do you decide which themes you want to highlight given all the choices you've got?

Randy Ewell (World Bank): I mean, oftentimes what typically happens is that there's some initiatives inside the World Bank on the project side. Some of the specialists may be working on something that gains traction with someone in markets or in some cases it may be something that we feel like is worth highlighting. In Canada for example we had highlighted gender theme to raise awareness for some of the work that has been going on inside the World Bank and essentially showing what some of those projects were doing. Of course health and nutrition occurred during COVID times, and we had a lot to show for how we were helping countries battle the adverse effects of COVID. In Scandinavian markets we chose to highlight food loss and waste. We executed a dual tranche Swedish Krona and Norwegian Krone to highlight this effort since there was so much that had been done on the project side. One of the banks had learned, attended an online seminar on the work being done around food lost and waste and reached out to us wanting to highlight this work to Scandinavian investors through a market transaction. For us this was a Sustainable development bond but work in this effort, if you truly examine it, is probably the most green things that you could probably do. If food loss and waste were a country, it'd be one of the biggest emitters of greenhouse gases. It's that significant. When you look at that from A to Z… all the things that are involved with that. But that was not considered a green bond. So ideas on highlighting or raising awareness can come from different areas. Sometimes we're highlighting some timely and important work that being done on the project side and sometimes we are aware of investor interest are able to find something to display they work the World Bank is doing in that area.

Jigme Shingsar (RBC): Great thanks. Maria, what drives the decision as to what theme you would issue? I mean, gender was very big and very successful.

Maria Lomotan (ADB): The first ADB thematic issuance was private placement in format so we have been true to this origin where a theme is undertaken based on specific investor demand and consistency with ADB's policies and project pipeline. The larger the pipeline and related disbursements, the greater the capacity to issue. Clearly, the starting point is a supportive asset portfolio and complemented by investor demand. The gender issuances in 2021 have been very successful across currencies and with demand available both on a private placement and syndicated basis meant that larger issuance sizes were achievable. We have had similar rollouts with the health theme in terms of issuing on a syndicated basis which have been equally successful.

Jigme Shingsar (RBC): Aldo, the SAB program is relatively newer. Does that mean that we would expect a relative pace of growth to be reflected in the fact that there's a new product, and maybe an emphasis on that, or will it grow in parallel with the CAB program?

Aldo Romani (EIB): I must clarify the sense of our approach to this type of bonds. Climate and Sustainability Awareness Bonds are complementary instruments that shed light on the sustainability of the allocated lending activities. What characterizes them is transparency and accountability of their use of proceeds. Of course, reporting is a feature of all of our projects, but the core idea that has been introduced by the EU taxonomy is that you can report to markets by primary policy objective in addition to sector in a systematic and comparable way.

Together, they cover the whole spectrum of environmental and social objectives, and eligibilities can be extended coherently to new areas at a pace decided by the Projects Directorate. This is however a gradual development that is taking place in parallel to the development of the EU taxonomy and its application to the lending activities of the Bank. The criteria for environmental and social areas beyond Climate Change Mitigation are still being defined and we also need to put in place internal and external arrangements for the provision to investors of adequate assurance on compliance. For CABs, which focus on Climate Change Mitigation, this process is more advanced.

In this context, I would like to highlight that the CAB/SAB frameworks published in 2021 entail for the first time the entire set of technical screening criteria for substantial contribution that were used for CAB/SAB allocations in 2020. Specifically for CABs, we compared such criteria with the criteria proposed by the EC technical working group on sustainable finance in 2020. We will repeat the exercise this year, comparing the CAB criteria with those that have finally entered into force in the EU in January. So, this means that we are creating additional transparency on how we are managing the transition to the new regulatory framework. This is particularly effective in building trust in the capital markets in addition to the growing volume of issuance.

So, to answer your original question, this is an open-ended discovery process where issuance volumes are not known in advance and CAB issuance will remain larger than SAB issuance for some time. The Bank has formally committed to apply the taxonomy regulation to the tracking of its disbursement activities and CAB/SAB issuance is basically an indicator as to how fast and to what extent this can be implemented. The external audit is bound to clarify where we stand at each point in time.

Jigme Shingsar (RBC): Thank you Aldo. Andre, you've mentioned the Eye bond is a very specialized product. In terms of the sustainable development bond versus not really highlighting that necessarily, how do you go down this path when you look at funding?

Andre Delgado (IADB): Basically, as mentioned, EYE bonds are issued according to the size of the disbursements and the combined size of EYE projects. For SDBs we are more open. To the extent that the proceeds of the bond are allocated to loans this can be done as an SDB. We are looking in terms of transparency and we are already producing impact reports showing the aggregate impact generated by the projects financed by SDB bonds. We are looking to streamline these reports and publishing them on the website as well as expedite the production of the reports and make it interactive. Of course, the data is already published, and we can already see for each projects, but are looking into ways to present it in a more user friendly way. We expect that for 2022.

Jigme Shingsar (RBC): Thank you. Piet, I know you're just doing green, you're focused on that. When you make a choice, is it the size of the issue or part of the curve, or something that affects your decision on whether to come with the green format or not green formula?

Size, liquidity are two aspects, and we want to maintain a curve in green bonds.

PIET JURGING, KFW

Piet Jurging (KfW): Actually, both size and part of the curve. So at least for 2021, it had been one of the goals to bring more liquidity in our green bonds, so we tapped on a regional Krona green bond and in Australian dollars as well. So, now we have the biggest green bonds in those currencies, and we did a 4 billion Euro green bond that marks the largest green bond for a non-sovereign. In U. S. dollars, we issued a US$3 billion green bond which is the biggest one worldwide. At least when it comes to green bonds, we did some private placements in green and we have now done them in 13 currencies. So yeah, size, liquidity are two aspects, and we want to maintain a curve in green bonds. I guess when you look at our dollar curve, it is not satisfactory. We just have a 5 year, 8 year, and the 9 year outstanding now. So, for next year, that'll be one of the goals, to let's say reactivate our green bond curve and to fill one of those gaps there.

Jigme Shingsar (RBC): Okay, great, thank you. We've talked about a lot of our issuer base issuing in different themes. Alex, the Canadian market seems very keen to add anything with an SRI focus. Sometimes there seems to be a little bit of distinction still between the ring fenced green structures versus the sustainable, but for the most part investors seem quite open at this point. Any thoughts on that? Is that just the function of the fact that they have so much capacity or interest in adding and there's only so much supply domestically?

Alex Caridia (RBC): Yeah. I think that's certainly a factor. To some extent, the Canadian market is behind some of the more mainstream markets in green – Euro in particular. So, the first green bond issue in Canada was in 2014, which is probably, I guess, 7 or 8 years after the first issue was in Europe. And so, starting from a lower base, investor in Canada have been adding ESG/SRI product. But the overall pool of sustainability focused investors in Canada has grown quite a lot with limited supply domestically. Out of the 10 provinces in Canada, there's really only been two that have issued green, being Ontario and Quebec. There have been some municipalities that have issued but nothing on the federal side yet. We are expecting the Government of Canada to come to the market with their green bond at some point in 2022 with the expectation of the program to be around about C$5 billion a year. We also expect CHMC to issue in ESG format at some point with that issuer being fairly vocal about their intent to do so. So some point we do expect more supply to come down the pipe, but as things stand supply is limited.

FORWARD LOOKING RISKS & CONCERNS IN THE SSA MARKET

Jigme Shingsar (RBC): Thanks Alex. I'm going to be mindful of time and maybe try to wrap this up soon. I know it's pretty late in Manila, Maria. Sorry about that. I guess just maybe more closing comments now. Any sort of risks or concerns, as we look for in 2022? Basically your funding program and also, we've talked a lot about SRI generally, and the pioneering work that this group of issuers has done in the sector has obviously encouraged the development of a green bond or sustainable bond market away from the SAA sector. Does that also constitute risk for the sector as we get further away from the triple-A issuer base? So anyway, why don't I start with Andre? Any concerns as you look forward generally, and any additional comments that comes to mind?

The on-going transition from LIBOR to SOFR could have an impact in terms of funding and issuances, especially to the extent that the swap market is not yet fully developed for all currencies and maturities.

ANDRE DELGADO, IADB

Andre Delgado (IADB): Concern in 2022 will remain the uncertainties in terms of central banks decisions and the pace of return to the "new normal". This could affect all the metrics that we look at – spreads, yields, et cetera. And also in terms of our borrowing program, which is expected to be a bit smaller than 2021. A similar challenge that we have been facing already for a couple of years has been navigating the pipeline. Another thing to look at is the on-going transition from LIBOR to SOFR, which could have an impact as well in terms of funding and issuances, especially to the extent that the swap market is not yet fully developed for all currencies and maturities. I see the swap into SOFR developing very fast, especially in this year-end.

Jigme Shingsar (RBC): So that last point, Andre, is that an efficiency concern as opposed to an availability concern?

Andre Delgado (IADB): It is to some extent a concern on availability because we wanted to make certain it's a liquid market so that we can have proper curves for valuations. We have already moved into SOFR funding some time ago and we are not adding any new exposure to LIBOR. The development of the cross-currency swap market into SOFR, as I mentioned, seems to be accelerating, which is welcomed.

Jigme Shingsar (RBC): Thank you. Piet, any sort of challenges, concerns, looking forward? Is it just markets or anything else structural that you would want to highlight?

Piet Jurging (KfW): Yeah, so there's still some uncertainty about the Fed's policy. Will they double the speed of tapering? Will they hike 1 or 2 times next year? What about the ECB? Will they stop the pandemic purchase program in 2022 and increase the APP (asset purchase program) at the same time? So many questions. How often will the Bank of England hike? In any case, central bank policy will still be accommodative in the next year, but it's possible that we see some shifts between funding costs between the different markets. So, I guess with our good reputation in the capital markets and our investor base, diversified portfolio, that we feel prepared for 2022.

When it comes to funding needs for next year, this will be released mid-December. So you still have to wait for that. But just last week, the coalition agreement has been presented to form a joint federal government and it has been stated that KFW will be used to start some sort of a transition fund in order to reach climate neutrality earlier. Likewise, the new coalition will increase KFW's equity basis if necessary. So it's still too early to comment on our funding target. But in whatever form the government wants to make use of KFW, at least from my point of view, it would rather strengthen our credit due to the higher interrelationship with the federal government.

Jigme Shingsar (RBC): So Piet, just 1 thing, is there any risk from COVID? Because obviously there's been an uptick in COVID cases. I'm not talking about risk in terms of your spreads or anything like that or your credit quality, but, in terms of variability on your funding requirements, whether demand for SSA goes down because of a slowdown, or it goes up for other reasons. Is there some sensitivity to that, which maybe hasn't been fully priced in for you?

Piet Jurging (KfW): Alex mentioned about the dynamics of COVID cases in Germany that they are increasing again. So it's at least a possibility that KFW could prolong its programs to provide liquidity aid for companies in Germany, which have struggled due to the pandemic at least in 2020. Those programs have been ring-fenced and the additional refinancing, we got it done by using the so called economic stabilization fund. So, and I'm pretty sure in case we are prolonging our programs, we are again allowed to make use of this new source of funding via the government.

Jigme Shingsar (RBC): Maria, I know obviously market risk, operational risks, you guys are still mostly working from home. But what are the rest of the challenges going forward, and is COVID one of them?

Adjustments are being made to accommodate these singular times but there is no substitute for face-to-face interactions. [...] While dealing with multiple time zones can be tricky, it has reinforced the efficiency and productivity of virtual meetings.

MARIA LOMOTAN, ADB

Maria Lomotan (ADB): Due to the COVID pandemic, we have been working from home since early 2020 but this has not impacted productivity, having implemented ADB's largest funding program historically over the past two years. Apart from potentially a more volatile market backdrop given concerns regarding inflation and tapering, the persistence of COVID and its delaying impact on normalizing operations and the work setup remain a challenge. Clearly, adjustments are being made to accommodate these singular times but there is no substitute for face-to-face interactions. That said, we have over the past two years, managed to reach out to quite a number investors across markets and currencies, and while dealing with multiple time zones can be tricky, it has reinforced the efficiency and productivity of virtual meetings.

Jigme Shingsar (RBC): Randy, sounds like you're very much on track this year. You are halfway through the fiscal year, any challenges or concerns looking forward?

Randy Ewell (World Bank): Yeah, I mean, I think it would just echo the very same things that has been said before. There's a lot of topics for sure. Inflation is most certainly a recent topic. Is it transitory? Is it here to stay? Interest rate hikes are a topic and when? What will the pace be and by how much? Changes in central banks behavior, like tapering or buyback programs in the US and Europe, volatility and government bond indices and bond markets. All of these things must weigh into our mind for the next year. There's been a good bit of volatility that's been introduced with the new Omicron variant as well recently. So hopefully that sorts itself out and calms down a bit. We are still working remotely as well.

We're looking to get back to the office but most of us have been managing things from home, which has been more efficient than I think anyone had expected. It used to be that we could never do deals or trade from home without special permission, but I don't think I ever want to do any of these 3AM morning calls again from the office again. As for COVID, the effects of the pandemic will linger in the counties with which we work. COVID has severely damaged the lives and livelihood of many of the people and communities which we aim to help. While we are starting to see recovery in some of the more developed countries, it's clearly going to lag for most developing markets. So our work here is not done, we'll continue to support. The effects of COVID will be around for quite a while.

Jigme Shingsar (RBC): Great, thank you. And last, but not least, Aldo, any comments with regards to any challenges or anything looking forward?

Financial sustainability is not just a question of, for example, putting together a different debt and spending project. There is also a question of how you spend the money and make sure that the money is spent in the way that is productive and increasingly can be associated with Sustainability.

ALDO ROMANI, EIB

Aldo Romani (EIB): Several technical challenges have already been mentioned throughout the discussion. I think there is also a structural challenge in the fact that the levels of debt continue to grow. It is not just the fact that there are a lot of issuers in the market and all are trying to seize the right window. This is always a challenge, and in that regard there should be some relief on our side because the 2022 funding projections are smaller than in 2021. If you factor in a continuation of the pandemic over a longer period of time, debt also risks becoming a chronic factor that may challenge the possibility of growth to outpace the interest rate burden over time. This may lead to financial tensions similar to the ones we have already seen in the past.

The productivity of investment must be secured to counter this factor. This consideration explains the importance of accountability in the use of proceeds for financial and not only environmental sustainability. In a medium-term perspective, making sure that the money is spent in the way that is most productive can increasingly be associated with the promotion of sustainable investment. It is of paramount importance to establish the conditions for an efficient market scrutiny of this endeavor, with clear price signals that incentivize virtuous behaviour. We all have a responsibility in establishing the conditions for an effective push in that direction, providing greater clarity for bundling environmental, economic and financial sustainability in the most efficient manner.

Jigme Shingsar (RBC): Great, thank you. I've taken plenty of your time so thank you all very much for joining. Thank you for a great year and we look forward to more next year. Hopefully, a lot of these risk concerns don't realize themselves or at least are mitigated by other factors. It does feel like at least in the near term, to Aldo's point, it doesn't feel like there's immediate pressure from a supply standpoint, at least among our traditional SSA issuers. So I think a lot will depend on external factors such as the central bank actions and inflation and how that impacts relativities among the markets. So it'll be interesting here as always to see how we open the markets after a short break, but thank you again for joining. I wish you a very Merry Christmas and happy holidays.

> HOME

STRONG REVENUES HELP CANADIAN PROVINCES BACK TO NORMALITY

Strong economic momentum saw improved revenues for Canadian provinces in 2021, allowing many to revise their deficit estimates lower than originally forecast. Debt-to-GDP ratios are improving, with higher near-term interest rates not expected to cause challenges in terms of debt servicing for either the provinces or federal government. Public sector issuance patterns continue to be driven by investor demand, with a focus on extended terms but with elevated issuance levels normalizing as deficits reduce. Meanwhile, demand for ESG-labelled issuance easily outstrips supply, leading to a green premium; provinces seek to establish ESG frameworks, but identifying qualifying projects of sufficient size is an issue. Meanwhile, thanks to a strong outlook and attractive yields, funding conditions for Canadian issuers in international markets remain very robust.

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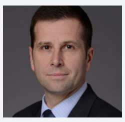
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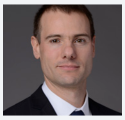
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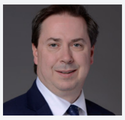
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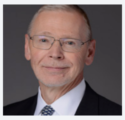
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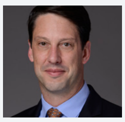
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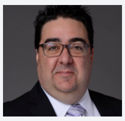
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MACRO ECONOMY/RATES

Alex Caridia: Welcome everyone. Dawn, what's RBC's view on the Canadian and provincial economic outlook for the next year?

Dawn Desjardins: On the national economy and the provincial economies, I'd say, we're relatively optimistic. We are expecting the momentum in the economy to persist in 2022. There is obviously lots of uncertainty. Omicron just add to the list of factors that creates this uncertainty in the economy, but we think there's a lot of really good momentum right now. We don't anticipate that we will see any large-scale, long-duration lockdowns in the near term. We think the fact that we do have such a high vaccination rate in the advanced economies that we follow will provide some insulation against having these broad-based slowdowns.

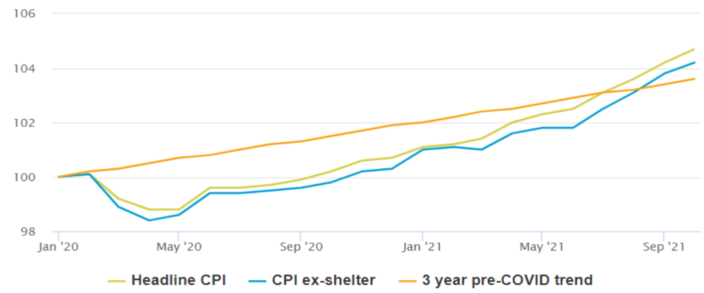
For Canada, we did have a bumpy 2021. We had severe lockdowns and we saw a contraction where we saw job losses, but those have all been recovered. Certainly, in the third quarter, data showed strong economic momentum. The pent-up demand on the consumer side really drove that growth, and we think that momentum could accelerate as we go through the last quarter of this year. Despite the uncertainties with respect to the current variant that we're battling, on balance our assumption is that we will get through this. There will be some hiccups, but it won't be nearly as disruptive as previous lockdown periods.

Omicron just add to the list of factors that creates this uncertainty in the economy, but we think there's a lot of really good momentum right now.

DAWN DESJARDINS

In terms of growth in 2021, we have penciled in +4.7%; in 2022 we think +4.3% for the national economy, again powered by the consumer. Lots of savings on the balance sheet. We do think the Bank of Canada will raise rates next year by 75 bps in total, but again, keeping policy stimulative, it will be below its neutral policy rate. We anticipate the labour market will continue to improve, but certainly demand is very, very hot with over a million job vacancies in the September employment report. There is lots of job growth, and the unemployment rate is creeping towards the pre-pandemic level. Inflation is accelerating so sharply — of course, not just as a Canada story — reflecting a myriad of factors. This year the economy is reopening, while last year it wasn't, and so we certainly have seen this as a contributing factor and we know it'll fade as 2022 goes on. Energy prices created upward push for price pressures and I think that will ease. When we look at supply chains, those also have created some cost pressures and we expect that as we get past the worst of the impact from the virus and economies reopen more fully those pressures will also ease. The big question mark or the big headwind for inflation is what happens with wages.

CANADIAN PRICES (EX-SHELTER) PUSH ABOVE PRE-PANDEMIC LEVELS



Source: Statistics Canada, RBC Economics

Because of the tightness in labour markets, we think inflation will remain above the Bank of Canada's target; moving back towards 2.5% as 2022 proceeds. Regionally, when we think about what we've seen in 2021, and what we anticipate in terms of growth for 2022, it's all about where the provincial economies are in the recovery cycle. We've seen many fully recover the loss output in 2021, with the exception of Ontario, Alberta, and Saskatchewan, and so we think these provinces will post stronger gains. As we go through 2022, they will be on the higher end of the growth scale, and then, as we get to 2023, all of these economies now be hitting their capacity limit and starting to move back towards what we would call trend growth. So I would say, overall, optimistic; but of course some caution with the forecast because of the new variant.

Alex Caridia: Thank you Dawn. That's a great introduction to start the conversation. Let's turn to some of the provincial issuers and their respective economic outlooks. Let's start with you, Mike. Do you have a comment on the outlook for Ontario?

Mike Manning: I think most of the major economic indicators have recovered close to, or even above pre-COVID levels. Employment has more than fully recovered; we've had five monthly employment increases in a row, so that's positive. In terms of real GDP, we're forecasting +4.3% for 2021, and with the year almost over, that number is probably pretty solid, and we're forecasting +4.5% growth for 2022, and then moderating thereafter. The recovery has been concentrated in household spending and exports, but residential investment and construction have been very strong as well.

Most of the major economic indicators have recovered close to, or even above, pre-COVID 2019 levels.

MIKE MANNING

Alex Caridia: Thanks Mike. Let's move to the Province of Quebec next and ask the same question on the outlook for growth.

Guillaume Pichard: Thanks Alex. 2021 is so far a great year in terms of growth in Québec. GDP is well above what we expected in March 2021. We expect this number to be at +6.5%, which is higher than Canada and the US, and even one of the highest in the world. But more impressive is the increase in nominal GDP, which is at 10.8%. This is the highest increase ever recorded for this statistic in Québec. If you look at what impact that has in terms of revenues, we just tabled our fiscal update and own-source revenues are up 10% from last year. This is a very strong increase, and the strongest increase we have seen in tax receipts is consumption taxes which have increased 13.6%. So, it's clear what we're seeing in the economy is that the consumer is driving it right now, so we're very positive going forward. However, we do have a more conservative GDP growth forecast for the next year at +3.3%. We account for risk in the economy going forward, like labour scarcity, inflation and, of course, you can't rule COVID completely over just yet.

Alex Caridia: Thanks Guillaume. British Columbia has been in the headlines a lot recently with the unfortunate flooding that has occurred. Jim or Jason, do you have a comment on the Provincial outlook?

Jim Hopkins: Thanks Alex. The floods that we've gone through these last couple of weeks have yet to be factored into our outlook and our official forecast. It was recorded as a subsequent event in BC's November second quarterly report. But there's no question that there's an impact, and at the moment, it's too early to quantify. In fact, this file is still in motion – it's still raining in parts of the province. So, there is more to come on this story. We have not yet done a complete assessment and we're in no position yet to assess the damage. The next thing to do, once an assessment has been made, is assemble a recovery plan. Just like Dawn said, I think the likely impact on our economic outlook is about 0.2% or 0.3%. But let's hold that off until we produce our budget in February 2022. I think we'll have a better line of sight on that then.

With respect to the economy, as we reported in our Q2 report a couple of weeks ago, we've observed strong growth up to this point. Retail sales, housing activity, exports, manufacturing shipments, our labour market have all been moving at a very strong pace. It hasn't been broadly experienced – there are some parts of the economy, particularly the high contact parts of the economy that have not enjoyed the same growth. I would say it's notable that we had a smaller growth contraction in 2020, yet, notwithstanding the base adjustment, most forecasters are still expecting BC to be about the third strongest in the country in 2021 and 2022. The economy is in good shape. There are some headwinds though. I will say, more recently we've seen COVID raise its head, and so we've delayed our step four, which would fully open up the economy; so we're not there yet. Inflation is higher and more persistent than we expected.

I'll say, one last thing with respect to the floods. There is obviously an impact and there's going to be a bill to be paid fiscally for it and the federal government has kindly committed to bear some of that cost. There is also a double-edged sword to these floods: they it will bring onstream some very significant capital projects and put a lot of people to work. So, there are some offsets to mitigate the negative impact of the floods but these of course pale against the personal hardships endured by British Columbians in the impacted regions.

Alex Caridia: Thank you Jim. Steve, Dawn mentioned that Alberta has a little bit of runway to go in terms of reaching pre- pandemic levels. Do you have a comment on Alberta's outlook?

Stephen Thompson: Thanks Alex. We're probably a little more optimistic, that is our nature in Alberta. From our perspective, the recovery appears to be well underway with activity picking up across the sectors and obviously led by energy. In terms of GDP growth, we've moved our forecast up from 4.8% in the budget to 6.1% for the current fiscal year. We do see it moderating, to 5.1% in 2022/2023 and then down to the 2.5% level in the forecast for 2024 and 2025. A lot of that growth will depend on demand and price levels.

It's primarily an energy story in Alberta.

STEPHEN THOMPSON

In terms of the energy sector, it is leading business output when we're talking about the economy. Production has increased 9% over the current fiscal year, it's currently at about 3.5 million barrels a day. Obviously, that's led by strong demand, high prices. We've seen better differentials as more takeaway capacity comes online. We have some fairly significant pipeline projects that are going ahead and that's certainly been very helpful.

The other thing on the energy sector that's helpful is income recovery incomes, were off about 63% at the start of the fiscal year, and we've recovered that and more. Incomes are now up 70% from the beginning of the fiscal year and that's led to increased capital investment intentions for the energy sector. But away from that, we're also seeing growth in the non-energy sector, including non-renewable energy projects, so we're expecting some more activity in that sector. It's primarily an energy story in Alberta, but most things that we talk about here are.

Alex Caridia: Thanks, Steve. Nicoleta, do you have any comments in terms of the economic outlook for Manitoba?

Nicoleta Oprea: Thank you, Alex. The latest economic forecast shows that the Manitoba economy will rebound with 4.6% growth in the current calendar year. Nominal GDP is forecast to increase 10.1% this year. Performance of key economic indicators show a strong rebound in many sectors, including employment, household stats, and manufacturing sales. Year to date, manufacturing sales are up 14.1%; we have retail sales at 14.7%; wholesale trade is up about 6%. And what we're seeing is that a number of economic indicators are surpassing 2019 levels. So, we're seeing really good progress. In terms of unemployment, Manitoba has recorded the lowest unemployment rate in the country at 5.3% in the month of October, as well as the lowest youth and female unemployment rate in the country.

The outlook remains volatile, and the fourth wave of COVID didn't hit Manitoba as hard as the second and third waves. But there is a lot of uncertainty, especially with this new variant of concern. We do have a very stable economy. It's the most stable in Canada, in terms of volatility and year-over-year economic growth, and this is due to the diversity in our industrial structure. So, while uncertainty remains, these advantages are reflected in the resilience we see as we progress through the pandemic, and I believe that puts us in a good position to deal with uncertainty.

PROVINCIAL DEFICITS AND BORROWING PROGRAMS

Alex Caridia: Thanks very much Nicoleta. I'd like to move on to deficits for our next discussion topic. It's been a great story for most of the provinces in 2021. Dawn, do you have an RBC view on the federal and provincial deficit picture and where we see those going?

Dawn Desjardins: Certainly, as mentioned by everyone around the table, nominal GDP growth has been extraordinary and this has given a real bump to revenues for provinces, and for the federal government as well. So, we are seeing less red ink than we may otherwise have seen over the past few fiscal years. We do think that the economies will continue to perform, and inflation may run a little hotter than it did pre-pandemic. So nominal GDP as a result will also be running firmer, and that will underpin more growth in terms of revenues. Now, we have seen some updates for some provinces, with some increasing their spending, trying to get their economies on a more solid footing. Our baseline view is that we will continue to see these deficits continue to decline. We will see, debt/GDP ratios, which moved higher during the pandemic, start to stabilize and gradually fall down. As mentioned earlier, we are looking for the Bank of Canada to raise the policy rate, but, in terms of the magnitude, we don't really think it would create any challenges from the debt servicing point of view. Debt service levels continue to be very low and we anticipate that will continue to be the case over the next few years for the provinces and federal government. We are expecting a fiscal update from the federal government before the holidays, and we are looking for some refinement in terms of how they see some of the programs that they are talking about proceeding.

We do think that the economies will continue to perform, and inflation may run a little hotter than it did pre-pandemic, so nominal GDP as a result will also be running firmer, and that will underpin more growth in terms of revenues.

DAWN DESJARDINS

Alex Caridia: Thanks Dawn. That's a great segue for me to bring Nic into the conversation from a federal government perspective. What is the overall view in terms of deficits and some of the programs Dawn just mentioned?

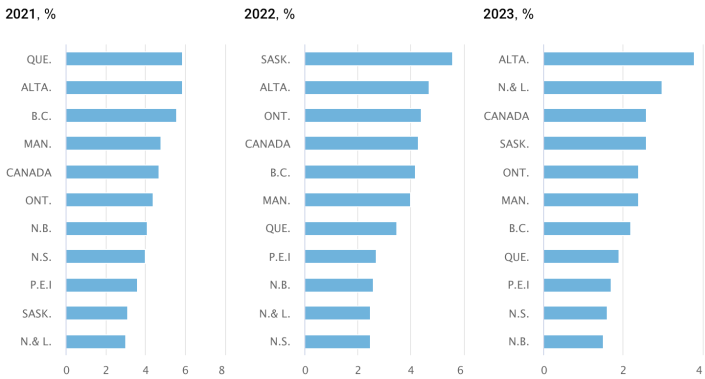
Nicolas Moreau: Thank you Alex. Finishing the fight against COVID remains the single best way to secure a strong economic recovery, for everyone. The government is prudently managing federal finances to help preserve fiscal firepower for future challenges and crises and ensure that future generations are not burdened with COVID-related debt. Canada entered this crisis in a strong fiscal position, enabling the government to quickly put in place one of the most effective response plans in the world. The government's COVID economic response plan has helped Canadians and Canadian businesses get through the crisis and has laid the foundations for strong economic growth and job creation. Provincial and territorial pandemic responses have relied on strong and consistent support from the federal government. After over 21 months of unprecedented economic upheaval, eight out of every ten dollars to fight COVID and support Canadians has come from the federal government. This unprecedented support, including income and business support programs, has had a significant, positive effect on provincial and territorial revenues and overall balance sheets. Therefore, the Government of Canada's COVID economic response has been key in shaping this recovery.The Government's support measures have been highly effective in mitigating financial distress among both Canadians and businesses, limiting long-term economic scarring by preventing an unnecessary increase in insolvencies that many had feared at the beginning of the crisis. By keeping Canadians' and businesses' finances largely intact, the supports laid the foundations for a strong rebound in the economy.

The government is prudently managing federal finances to help preserve fiscal firepower for future challenges and crises and ensure that future generations are not burdened with COVID-19-related debt.

NICOLAS MOREAU

The Canadian economy is on the road to recovery but reopening is proving to be a difficult task. While we are still estimating the impacts of the Omicron variant, a number of other factors are also complicating recovery. A key one is the strains in global supply chains due to very strong demand for goods. These strains should diminish as people increasingly return to consuming in-person services. However, in the meantime, they are creating inflationary pressures and causing a high degree of uncertainty around the near-term outlook. Despite the factors delaying recovery, real GDP is expected to reach its pre-pandemic level by the first quarter of 2022. Real GDP growth should then remain solid at 4.2% in 2022 and 2.8% in 2023, stronger than expected in Budget 2021. As a result, the economy is set to reach a similar level of output by the end of 2022 as expected in Budget 2021. Based on a similar economic outlook, OECD projections suggest the recovery in Canada would be the second fastest (relative to pre-pandemic level of GDP) in the G7 by 2023.

REAL GDP GROWTH



Source: RBC Economics

Alex Caridia: Thanks very much, replace with: Nicholas. Susan, we've heard a lot about more growth, inflation, and lower deficits. How has that impacted your business model in terms of lending to the Canadian exporting sector?

Susan Love: Well, in response to the pandemic, the Government of Canada expanded our mandate so we could help more Canadian companies, whether or not they exported. We have been working alongside our federal partners, like BDC, as well as Canadian financial institutions and insurance providers to help Canadian businesses weather the storm. While our 2030 strategy is aimed at increasing Canadian trade over the longer term, our domestic strategy is equally important in the short term. EDC's success is really defined by the success of our customers and our impact on trade. Have we helped Canadian companies grow their trade revenue? Have we created more Canadian jobs or improved Canada's trade performance? Our business model and 2030 strategy aim to do this through advancing sustainable business practices and fostering inclusion, diversity, and equity. With the COVID pandemic magnifying economic inequalities in the world, we want to be an agent for change and help all segments of society take advantage of the opportunities flowing from trade.

There's no question the Canadian exporting sector will continue to face challenges associated with the pandemic. However, as EDC's 2030 strategy gains traction, we are optimistic this will have a positive impact on Canadian trade, our customers and ultimately, Canada.

SUSAN LOVE

As you say, the rebound in economic activity in 2021 is an encouraging sign for Canadian businesses. Based on that, we're forecasting a borrowing program of US$10-12 billion in 2022, up from the US$8-10 billion we forecast for 2021. There's no question the Canadian exporting sector will continue to face challenges associated with the pandemic. However, as EDC's 2030 strategy gains traction, we are optimistic this will have a positive impact on Canadian trade, our customers and ultimately, Canada.

Alex Caridia: Thanks Sue. Sylvie, can you comment on the impact the recovery has had on the Canadian housing sector?

Sylvie Legros: We just released our housing outlook recently and CHMC continues to be concerned about the debt levels in Canada. One of the reasons that we see the economy to be vulnerable is because most of this debt is not very well diversified. It's all in real estate, so if there is a shock, then households are vulnerable to that. So, it's definitely a factor in the housing market, and we continue to worry about that. On the other side, we see that mortgage arrears are now at a 30-year low. So, during the crisis, borrowers were able to benefit from the payment deferral program, but then they were able to resume their regular payments at the end of the program, hence the concern we had of high default rates did not materialize. So, on that part, the mortgage market is all about employment. And as Dawn mentioned before, there is a part of the labour market for skilled jobs that is very tight. So, maybe the sequence is that the employment market is going to remain strong, but less skilled workers are going to be kept out of the housing market.

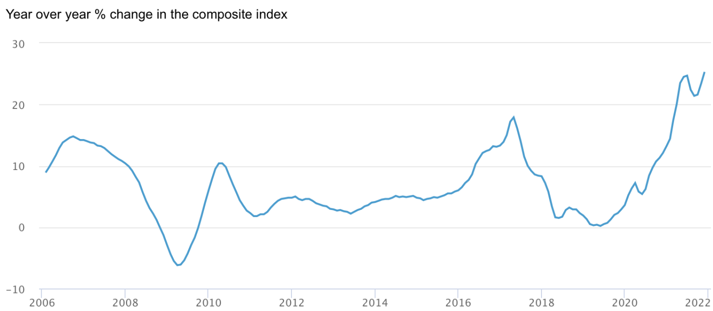
As long as immigration continues, and employment remains healthy, particularly for the population that is open to home ownership, the housing shortage could persist and so prices could stay elevated for a while.

SYLVIE LEGROS

On housing prices, we noticed that prices went way ahead of the economic recovery. It was not in step. The average home price in Canada is now C$716,000. Of course, the average might not be the best measure, because it's a wide range, but it's still about 18.2% higher year over year. Low mortgage rates stimulated demand during the pandemic, but it was also triggered by an exodus from large cities to urban areas, and home buyers were looking for single dwellings with larger-spaces to have a home office for example. That exacerbated the supply shortage in that part of the market, and that is probably why housing prices went way ahead of the economic recovery. As a result, now we see some smaller markets like Ottawa, Hamilton and Halifax are in what we call the vulnerable zone. This varies quarter to quarter, but we continue to see vulnerabilities in several smaller markets.

We don't really see an inventory surplus. In the end this year we expect housing price to go up maybe 3 to 4%, and we think demand is going to decrease for three reasons. One, it's the end of QE; two, there is an expectation that there is going to be an increase in the policy interest rate; and three, the spike in demand because of the exodus — we think that it has run its course. So, we think demand is going to be more in line with supply in 2022 and this would lead to a 3 to 4% increase in housing prices. We continue to worry about the household debt level in the housing market and housing prices. But in the end, as long as immigration continues, and employment remains healthy, particularly for the population that is open to home ownership, the housing shortage could persist and so prices could stay elevated for a while.

MLS HOME PRICE INDEX – CANADA



Source: Canadian Real Estate Association, RBC Economics

Alex Caridia: Thanks Sylvie. Let's turn to some of the investors around the table. We've heard some very positive stories with perhaps a little bit of concern around debt levels and house prices. How does that make you feel in terms of investing in the public sector space in Canada right now? Has that changed your view on credit?

Ryan Goulding: Certainly, we generally remain quite positive especially in the public sector space in Canada. We did view the initial budgets as extremely conservative, which I think was kind of well-known in the market and the improvements we've seen with the recent updates have just been phenomenal. The ability of the issuers to continue to borrow, and continue to access the international markets through the last two years, and then having liquidity also to be extremely supportive in all provinces. We're still very overweight public sector borrowers. If you look worldwide, you simply can't find any other issuers with such a good outlook and attractive yield levels. So, we continue to be very positive on it and by no means are we cutting any exposures here, despite getting to tighter yield levels.

We're still very overweight public sector borrowers. If you look worldwide, you simply can't find any other issuers with such a good outlook and attractive yield levels.

RYAN GOULDING

Alex Caridia: Thanks Ryan. Abid, comments on your side?

Abid Dobani: Yes, the way that we look at it is, above the normal trend growth we've seen about C$60 billion of excess supply from our provincial issuers this year. When you compare that to the approximately C$170 billion of new cash in the system since the pandemic, it's not a surprise to us that the sub-five-year sector has done so well, just because there's that much money to be put to work. When I think about the types of buyers in the sector, that's one thing we're keeping an eye on here. As Ryan mentioned to, the absolute yield levels are one thing, but the other aspects are the buyers on asset swap, or the international buyers looking at the currency, or even those who are just looking at provincials against their investment grade or high yield counterparts. That's something we're keeping our eye on because we're seeing the rotation where one investor category steps in when the other slows down. And we're very cognizant now that there are certain investor groups that are struggling to reach these levels versus other investors who are very attracted.

Alex Caridia: Thanks Abid. Dominic any comments on your side?

Dominic Sicilano: I echo what my colleagues just said. Given the problems that we had in 2020 with the crisis, how well the financial system and financial infrastructure in Canada responded to those challenges gives a lot of confidence for the market, whether it's domestic or international issuance. The credit story has been good. We've seen some really good fiscal management from the provinces at this level so we're also very constructive and comfortable with the credit picture.

INTEREST RATES

Alex Caridia: Thanks very much. Let's move on to interest rates. Dawn, from the RBC perspective, where do we see interest rates going?

Dawn Desjardins: Since we've seen this increase in inflation, and we do see full recovery of the national economy by the end of this year, we think we will probably get back to no output gap in the middle of 2022. That's very much in line with what the Bank of Canada has said, and so their guidance makes it sort of a live meeting if you will; we think April is when they'll start the process of raising interest rates. Certainly, when we look at the economy, we don't really think that rates at the lower bound, aren't needed at this time. The Bank of Canada has already started to pull back on their nontraditional measures. We think that they will make that next step in April. Now, I'm going to caveat myself here and say that this assumes no really significant pull back because of any of the variants of concern. So, we think that if we are able to get our economy continuing to grow, that it will leave the door open to the Bank of Canada continuing to nudge those interest rates higher. We have them moving by 75 basis points in total this coming year, getting us to 1% and then as we go through 2023 we think they want to get closer to neutral, because at that point, we will be working in a situation where we are running above our capacity. We have it at the lower end at 1.75%, at the lower end of what they deem to be their neutral band. Now yields are also moving up, but it really is a situation where we get this increase in inflation — it remains elevated compared to where it was, then it moves towards that 2% target in 2023. So, we don't have rates at the long end moving up so significantly. By the end of 2023, we have 10s at 2.2%, and at the end of 2022, we have it at 1.9%. So, 50-70 basis points higher, but not hundreds of basis points higher.

We think that if we are able to get our economy continuing to grow – it will leave the door open to the Bank of Canada continuing to nudge those interest rates higher. We have them moving by 75 basis points in total this coming year, getting us to 1%.

DAWN DESJARDINS

Alex Caridia: Thanks Dawn. Renaud, has the prospect of higher rates impacted your thoughts around borrowing at all, and what is the plan going into 2022?

Renaud De Jaham: Not really for us, because we look at the debt capital markets program more strategically, long term, for sustainability for PSP's business plan as a whole. So, we're not that tactical and we're not really worried about higher yields. The way we manage the program is more towards investor appetite; so, the tenor we will choose when we come to the market will be mostly driven by the demand and the appetite of investors. The main focus for us is really sustainability and predictability for investors. As you may know, we've started issuing in US dollars; our strategy in the US and in Canada in the domestic market is quite similar. It's really driven towards investor outreach much more than yields per se.

Alex Caridia: Thanks Renaud. Mike and Guillaume, from your perspective does the prospect of high rates push you further out the curve to try and get more long end funding while rates are still relatively low?

INTEREST RATES (%, END OF QUARTER)

				Forecast									Forecast		
	21Q1	21Q2	21Q3	21Q4	22Q1	22Q2	22Q3	22Q4	23Q1	23Q2	23Q3	23Q4	2021F	2022F	2023F
Canada															
Overnight	0.25	0.25	0.25	0.25	0.25	0.50	0.75	1.00	1.25	1.50	1.75	1.75	0.25	1.00	1.75
Three-month	0.09	0.15	0.12	0.20	0.25	0.55	0.80	1.05	1.30	1.55	1.75	1.75	0.20	1.05	1.75
Two-year	0.23	0.45	0.53	0.95	1.05	1.20	1.35	1.50	1.60	1.70	1.75	1.75	0.95	1.50	1.75
Five-year	0.99	0.98	1.11	1.25	1.35	1.45	1.55	1.65	1.75	1.85	1.90	1.95	1.25	1.65	1.95
10-year	1.56	1.39	1.51	1.60	1.70	1.80	1.85	1.90	2.00	2.10	2.15	2.20	1.60	1.90	2.20
30-year	1.99	1.84	1.99	2.00	2.05	2.10	2.15	2.20	2.25	2.30	2.30	2.30	2.00	2.20	2.30
Yield curve (10s-2s)	133	94	98	65	65	60	50	40	40	40	40	45	65	40	45.00
United States															
Fed funds*	0.13	0.13	0.13	0.13	0.13	0.13	0.38	0.63	0.88	1.13	1.38	1.63	0.13	0.63	1.63
Three-month	0.03	0.05	0.04	0.05	0.05	0.10	0.40	0.70	0.95	1.20	1.45	1.70	0.05	0.70	1.70
Two-year	0.16	0.25	0.28	0.60	0.75	1.00	1.20	1.35	1.55	1.75	1.90	2.00	0.60	1.35	2.00
Five-year	0.92	0.87	0.98	1.20	1.50	1.80	2.05	2.10	2.20	2.30	2.35	2.40	1.20	2.10	2.40
10-year	1.74	1.45	1.52	1.50	1.85	2.00	2.15	2.20	2.30	2.40	2.45	2.50	1.50	2.20	2.50
30-year	2.41	2.06	2.08	1.85	2.15	2.25	2.30	2.35	2.40	2.50	2.55	2.60	1.85	2.35	2.60
Yield curve (10s-2s)	158	120	124	90	110	100	95	85	75	65	55	50	90	85	50.00

Source: RBC Economics

Mike Manning: From Ontario's perspective, we are forecasting higher interest rates. We're looking at interest rates going up 50 basis points next year and 80 basis points the following year. The impact of a one percentage point change in interest rates is about C$700 million for us in the first year, so it's not huge, but there is a definite impact. We're not at the stage where we have to move down the yield curve to reduce our interest costs. So, we're still comfortable from a longer-term point of view. I think interest rates are still historically low, so we're still inclined to extend term rather than move down the curve.

Guillaume Pichard: Similar to what Mike said, we've accounted for higher rates in our financial framework already. The level of interest rates we've had in 2020 – let's be honest, it was fun while it lasted. I don't think anyone around the table here would think they could borrow for 30-years under 2% yield indefinitely. It is something that is on our radar but with Canada 10-years under 1.5%, now we're still in a very low rates environment, so does it play a role in the allocation of our debt issuance? Well, no, not really. We follow where demand is, and issue where we think we can sell good issues. We're always thinking about the next issue. So, this year, we've been fortunate to issue a lot of long-term bonds in Canada. The average maturity of what we've issued is 18 years. But I don't think we'll go down the curve just yet to save a bit on interest rate. That's not the way we want to operate.

The level of interest rates we've had in 2020 – let's be honest, it was fun while it lasted. I don't think anyone around the table here would think they could borrow for 30 years under 2% yield indefinitely.

GUILLAUME PICHARD

Alex Caridia: That makes sense. For the investors in the room, how do you position your portfolio? Obviously, stimulus is being withdrawn as rates are going up. The other side of that coin is, as we've heard a very positive backdrop in some of the credits. How do you position the book in a rising rate environment? Abid, can we start with you?

Abid Dobani: Sure, what we're looking at is the timing and the potential log jam. So as the Bank of Canada starts to hike and exit the reinvestment programs, the net supply will grow from Government of Canada bonds. And there's a larger role for issuance now from our provincial partners. But at the same time, corporates have also been borrowing a lot more than previously and they have to roll those over. So, what we're doing is just keeping an eye here to see what the asset swaps do. That should in theory help negate some of the impact from excess Government of Canada issuance versus potentially wider provincial spreads. From our perspective, we don't see the asset swaps moving a lot. And from a duration perspective, we're fine with the part of the curve that we generally stay in — sub-seven years. We don't see any reason for this to continue to widen because there's still so much excess stimulus in the system. Even after the Bank of Canada stops, once they start hiking, and even after they exit the reinvestment period, this historically has taken time to leave the system. So, we think for the next year or so, at least, it's going to take some time before we see any sort of movement of the sub-seven-year part of the curve. I'll leave it to my partners to hear their thoughts on the other parts of the curve.

Alex Caridia: Thanks Abid. Ryan or Dominic?

Ryan Goulding: We look at the hiking cycles more as curve moves than as outright interest rate moves. So, in terms of how do we position this? Modest, very modest underweight duration, but really the move that we've had on for quite some time is a flattener. I think that this has been a faster cycle than any. It's not a normal business cycle where it would usually take three to four years to flatten out. I think we're going to get this curve flatter far faster than we anticipate. And you know, this time next year, we'll be talking about curve inversions on 2s/10s. So that's how we positioned it. We've also gone into more non-Canadian dollar products and increased our usage of our core plus, which allows us to do more floating rates product in the front end a little bit further down the credit spectrum as well.

Jason Lewis: I was going to just add in one other comment: I'm very sensitive, certainly to Ontario's point of view, but I also tend to lean a little bit more towards Guillaume's view on how it's probably going to drive our plans. I think there's another element here, which provincial issuers are probably starting to generally look at, the unwinding of all the extra prudence and liquidity that we were baking into programs over the last year or so, like funding a lot more in the short end. We're actively trying to issue more in the long end now to extend our maturities and reshape our maturity profile. We have extra cash on hand. Justifiably it is a good buffer for our cash management and positions us well for surprises. But at this point, I think it's prudent for us to get back to the pre-COVID track of focusing on 10-year and 30-year benchmark liquidity. If it happens that rates move higher in the face of inflation concerns and economic growth prospects, that could justify in itself putting these emergency funding approaches aside. BC's funding is traditionally for capital requirements, too, and it's actually kind of a risk exposure for us to mismatch those longer-dated assets and funding liabilities.

I think there's another element here, which provincial issuers are probably starting to generally look at: the unwinding of all the extra safety that we were baking in over the last year.

JASON LEWIS

Alex Caridia: Thanks Jason, it's a good point. Steve, cash balances have been a concern for you. I'm wondering if you wanted to comment on what Jason said.

Stephen Thompson: I completely agree with Jason on that one. From our perspective, our funding is not all for capital, so we do have the opportunities in the front end of the curve and don't have to worry about matching maturities. But if you look at our program this year it's a little inflated because it still assumes that we are maintaining those larger cash balances that we've been carrying for a couple of years. So, there is a potential actually that we reduce the program in terms of size. Certainly we don't have any rate sensitivity, not at forecast levels, when it comes to how we're running the program. Our focus even prior to the pandemic was to term out as much of this as we can, fully acknowledging that it's not going to be repaid any time soon. Even in the face of inflation here, we are not talking about rates out of context here historically, so, I don't see anything that is really going to impact our approach to the market at all.

Jim Hopkins: Thanks, maybe I could just add something, Alex, to what Stephen was saying, and that is that coming out of the pandemic, there's been a tremendous turnaround in the economy and our fiscal situations. I imagine this has been experienced broadly and that the cost of the debt burden has also been reduced relative to revenues. For example, in the case of British Columbia, we've had record lows in terms of the affordability of our debt burden with only 2.9 cents per dollar of revenue needed to service BC's taxpayer-supported debt. So, we are in a strong position to take on moderate increases in interest rates. The other thing is that we have observed that when the Bank of Canada increases interest rates, there is not a one-for-one impact on provincial debt costs. For example when the Bank of Canada increased rates by about 125 basis points in 2017, the net impact to BC's weighted average cost of debt was only about 50 basis points. To add on to that, I expect provinces will have lower funding requirements going forward and that will also lower the risk of a rising interest rate environment. I think the provinces generally are in a good position to take on interest rate increases without impacting a well-functioning domestic market.

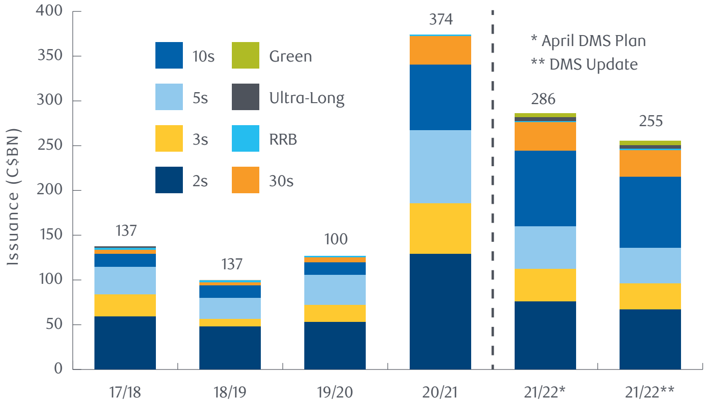
Alex Caridia: Thanks very much, Jim. I want to ask Nicholas what the federal view is on interest rates, and also has it impacted the borrowings strategy in terms of auction schedule, maturity terms, or anything like that?

Nicolas Moreau: For sure we're looking at where rates are going, but consistent with the direction laid out in the 2021-22 Debt Management Strategy. This year's strategy continues to seek to maximize the financing of COVID-related debt through long-term issuance. This fiscally prudent approach provides security by lowering debt rollover and providing more predictable public debt charges.

As the fiscal outlook for 2021-22 has improved, this has resulted in lower financial requirements than the 2021-22 projection published in Budget 2021. Reflecting the lower financial requirements, the year-end treasury bills stock will be lower when compared to the levels outlined in the 2021-22 Debt Management Strategy and the bond program issuance for 2021-22 has been reduced. The reductions to the bond program issuance reflect a balanced approach that reduces all existing sectors, except for the Real Return Bond (RRB) and Ultra-long sectors. These adjustments were done to support market well-functioning across all sectors, while still maintaining the government's objective to maximize the financing of COVID related debt through long-term issuance, which remains at historic issuance levels.

Looking ahead, as Canada continues to recover from the pandemic and as COVID-related debt is termed out, the government will evaluate its debt policy objectives in parallel with developing the 2022-23 Debt Management Strategy, so that Canada's debt program continues to be managed prudently for the benefit of future generations.

GROSS BOND ISSUANCE LOWERED AS EXPECTED



Source: Department of Finance Canada, RBC Capital Markets

OIL MARKET

Alex Caridia: Thanks Nicolas. The next topic for discussion is the oil market. Dawn, from RBC's perspective, what is the view on oil and energy?

Dawn Desjardins: I think our analysts remain relatively constructive on oil, feeling that the very sharp reaction we've seen to this threat of the Omicron virus spread is overdone. So, they are still relatively optimistic. We are looking for the market to be somewhat undersupplied in the second half of 2022 and therefore I think that gives some stability to prices. The latest forecast they had was averaging about $77 per barrel, which does seem far from today. However, a few weeks ago it seemed far the other way. Based on that what they are tracking in terms of their real time data — lots of travel in the US over that Thanksgiving long weekend, although omicron threats have burbled up significantly — they do think that we will continue to see prices higher than they are today as we go through next year.

Alex Caridia: Thanks Dawn. Perhaps Steve you're the best person to go to next from the provinces here. What's the impact from energy prices on your budget and funding plans?

Stephen Thompson: Thanks. We wouldn't disagree with anything that Dawn said. If you looked at the budget, you can see that we do try to be a little conservative when it comes to the WTI forecasts particularly. And there are two components when we talk about the impact of global oil markets on Alberta. The most immediate and the most obvious is the impact on natural resource royalties, which directly feeds into Alberta's revenues. The deficit improved this year by about C$12.5 billion from the February budget — almost entirely a revenue story. We saw an increase in revenues of C$14.2 billion. Of that, C$8 billion is natural resource revenues that go directly to the province. And of that, C$7 billion is royalties on bitumen production. Those royalties are largely driven by WTI prices. That's why you see the volatility in the Alberta fiscal situation and, it's been very positive this year. It's been very negative in others. The longer-term impact is on the corporate income tax and personal income taxes, because clearly the energy sector dominates the Alberta market. So, the impact on the fiscal situation from those drivers are further down. Those will moderate next year if we have a correction. All that to say, we're very positive on what we see for the next few years on oil. Predicting further than that is a fool's game. But price levels will have a dramatic effect every year on the fiscal situation in Alberta.

We are looking at growing the economy in other areas, and we've made tremendous headway in diversifying the economy into non- energy sector investment and government focus, including things like renewable energy and ESG-friendly types of investment. The problem we still face after all these decades is that none of those things can match the scale of the energy sector in terms of their impact directly dollar for dollar on the fiscal balance in Alberta.

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STEPHEN THOMPSON

Alex Caridia: Yes, that makes sense. Sue, from EDC's perspective the joint statement that came out of COP26 recently proposes an end to direct public finance of the international oil and gas sector by the end of 2022. This would seem to capture EDC within that. I'm wondering has that had an impact on either your lending or your borrowing?

Susan Love: Earlier this year EDC announced that it would no longer provide new, direct financing to international fossil fuel companies, or their projects. That said, EDC will continue to work closely with our industry, financial and government partners to help Canadian companies transition to a lower carbon future. Given the joint statement coming out of COP26, we're currently working with the Government to determine its scope and the best way for EDC to align with Canada's commitment in this space. As a result, I think it's still too early to tell what the impact will be on our lending book or on our funding program. I'm optimistic that our 2030 strategy, with its emphasis on helping midsized companies step into the global arena combined with our focus on high-growth sectors, and doing this business all in a sustainable way, will be positive for our customers. If it's positive for our customers, then EDC's lending and borrowing programs should continue to grow in future years.

Alex Caridia: Thank you Sue. Dominic, are you seeing pressure from your investors to take an exclusionary approach in terms of some of the companies you invest in that are heavily active in the natural resource sector?

Dominic Sicilano: I think on exclusion the simple answer is it's not what we think is the appropriate action. I think we have to transition. We have to work with the existing companies. We've made this point in the past and I'm surprised and happy to see that investors are understanding that we need to help some of the polluters move towards renewable energy.

You'll see that most of them are really engaging in this practice. That's been a very positive thing. So, let's get them from the level of emissions that are unacceptable down to zero in a timeframe and I think that's how it's a win-win for everyone. We have to transition our economy.

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DOMINIC SICILANO

Alex Caridia: Thank you. Ryan, do you have a similar view?

Ryan Goulding: We have had a very small amount of our clients put in exclusionary types of changes to their prospectus, but what we have seen is an uptick of our clients wanting to know our level of engagement with credits that we do invest in. And so along the lines of what Dominic said, there are investors that are much more interested in getting engaged than just excluding.

Abid Dobani: RBC as a Treasury is committed to having up to C$10 billion of our HQLA assets be sustainable by 2025 in some form or another. To Dominic's point, I think this isn't an "at the expense of putting it into somewhere that may otherwise be considered dirty rather than clean" aspect. The more that we can support those who are trying to go green in one way or another, the better, so that's the way that we're looking at it — with a public commitment and then we are held accountable to it.

Alex Caridia: And we'll try and help you find that C$10 billion number Abid.

Abid Dobani: I'm not worried about that, Alex, you know how to spend the money!

ESG AND GREEN BOND MARKET

Alex Caridia: This is a great segue into the green bond and ESG discussion. To give a bit of backdrop, maybe both domestically and internationally and starting domestically with you Kevin, what have we seen in green so far this year?

Kevin Martin: Yes, certainly from the investor side, it's clear that an increasing number of investors are evaluating issuers' ESG impact. At the beginning of 2020, U.S. assets under management that engaged in ESG investment strategies grew to $17.1 trillion, experiencing 42% growth compared to the beginning of 2018. According to the Responsible Investment Association, responsible investment assets now account for almost two-thirds of total Canadian assets under management. RBC recently completed a survey of US institutional investors on their ESG investing habits and preferences. We found that 83% of investment grade investors surveyed expected ESG-dedicated mandates to grow over the next 12-18 months. I think that highlights the growing importance of ESG in fundamental credit analysis by many investors.

From the supply side perspective, Ontario and Quebec are leading the way for green bond issuance among the provinces. In 2021 they issued an aggregate $4.5 billion over three transactions: that's an 80% increase in the notional amount of green issuance by these two provinces over 2020 ($2.5 billion).

Alex Caridia: Thanks Kevin. Jigme, what about from an international perspective?

Jigme Shingsar: Yes, from an international perspective, it's pretty much as Kevin has outlined. Growth of ESG, or at least having a component of evaluation is growing. I think one of the most popular job postings these days is probably an ESG specialist and you're seeing more investors add ESG infrastructure. And with that infrastructure, they're able to dig a little bit deeper with regard to people's frameworks and so on. So, investors are certainly evolving very quickly, moving beyond just looking at the label to now dig deeper and ask more questions. We expect that trend to continue I think if anything, the sector remains undersupplied relative to the growth of demand. Now this is a comment on ESG globally, but it's obviously the case in Canada as well. For Canada, it's provided an opportunity for some of the offshore issuers to come in with ESG labelled product, just to fill a bit of a gap. Because I think demand for this in the Canadian market is also far above supply.

Kevin Martin: Yes, that's a good point. There was C$9.4 billion in ESG issuance by foreign SSA issuers in the Maple market in 2021 alone. So certainly, to Jigme's point, international SSA issuers are coming in to help fill that demand.

Alex Caridia: Yes, and it's a good point around the undersupply. Perhaps I'll bring some of the issuers that haven't issued green yet before going to, as Kevin mentioned, Ontario and Quebec, as the pioneers of the provincial green bond market here in Canada. Renaud, ESG is a big topic and there is hardly a meeting that goes by with either an investor or an issuer where this doesn't come up. What is PSP's view?

Renaud De Jaham: I would start first by saying that as many of you mentioned, there is more and more pressure for issuers. Questions are asked with about ESG matters and ESG practices within organizations. Even if you don't issue green bonds you have to be conscious, that more and more investors are evaluating new issuers from the ESG perspective. So, this is something we should not deny. At PSP, one of the pillars of the strategies is to move towards sustainable investments, and we expect to increase our investments in green sectors over the next few years. So obviously, from a financing perspective, it makes plenty of sense to have another tool in the toolbox of the issuer being sustainability bonds, and green bonds. As we speak, at PSP we are working on our green bond framework, and will hopefully launch our first green bond in 2022 probably in Q1.

Alex Caridia: That's great. I'm very pleased to hear it. Nicoleta, what is Manitoba's view on green bonds?

Nicoleta Oprea: I echo your comments, Alex. In every conversation we've had with investors this past year, green bond issuance does come up; and also, what is the province doing to contribute to a greener environment? In Manitoba, we're in the preliminary stages of establishing a green bond program. We're finding it very challenging to find projects that are large enough not only to establish the program, but to sustain it. We are currently working with our climate and green plan implementation office to determine if there are enough projects for green bond issuance, and also looking at whether or not we need to establish not just a green bond but an ESG program. So, as I said, very preliminary stages and we're going to continue to work on this, but I don't expect Manitoba to have a green bond or ESG framework in the very near future.

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NICOLETA OPERA

Alex Caridia: Thank you Nicoleta. Talking about setting up an ESG framework, Steve, do you think there's an opportunity for Alberta to, maybe not issue green, but to issue sustainability or social bonds in the future?

Stephen Thompson: Certainly, it is a growing and important market. We have not set up a framework and there are no specific plans to do any use of proceeds program of any kind. The focus in Alberta for ESG has been to try and coordinate and collaborate with the industry. The Government's role is to provide a policy and legislative framework in which innovation can come from industry. And if you look at the strides being made in Alberta, they're being made on the industry side. So, we can talk about the Suncors of the world, if you want to talk about really significant, impactful greenhouse gas reductions, and greening of a very carbon-intensive industry. We have set up, as an example, an ESG Secretariat as part of government during this fiscal year, and the mandate of that group is to coordinate all of the different government programs and to align them so that we are a proper partner to industry in decarbonization and in moving to a greener future. In terms of the program itself, yes, we could easily set something up.

From my perspective on the capital front, I share Nicoleta's problem. I can't really scrape together a large enough capital project that's going to genuinely meet the need to have a proper use of proceeds program in place. But I'm not ruling it out. I firmly believe at some point, you'll see us in with a green bond. I don't think it will be transition. I think it will be pure green. That's just my best guess, however.

Alex Caridia: Sylvie, in terms of CHMC, it's fairly well-flagged that you're looking at social housing or sustainability financing opportunities. Can you comment?

Sylvie Legros: Yes, of course we would like to issue an ESG with the CMB program. There is a group working at CHMC looking for the potential to develop a housing sustainability framework for both the NHA MBS program and the CMB program. The group works with external parties like mortgage issuers, and we use our syndicate for advice. RBC for example is giving us advice on that project, but it's a. fairly complex process. I guess it could be both social housing and green products in there. But at this point we don't have more specific details. We cannot provide any timeline for when we would be in a position to issue ESG CMBs. There's a lot of work that needs to be done before that. But hopefully we will complete fairly soon, as we want to be in the ESG space because it's part of CMHC's mandate.

One other recent initiative was that we used the CMB program to help affordable housing. We increased our 10-year benchmark issuance size from C$2-2.5 billion to C$3.5-4 billion in 2020, because the 10-year is related to multi-unit housing which is typically more affordable. As well, starting in 2021, we gave preferential funding to mortgage pools that have at least 20% of their mortgages that were represented by eligible multi-unit loans insured by the CHMC, using the affordable flex products criteria. So, we implemented this initiative with the first 10-year issuance that we did in 2021. It's been quite successful. The part of the ten-year issuance that is comprised of these pools has increased steadily so far over the four issues that we've done since this was implemented. It's working very well and we continue to monitor to make sure there are no unintended consequences from this initiative.

Another thing we did as well at the corporate level was to create a group that is focused on the green side of the housing supply. For example, they provide advice to developers and they connect developers with agencies and other support systems that could help them to develop green buildings. Essentially, we try to find ways to use our programs, whether the CMB or other programs, to be active in the ESG space, because the demand is definitely there, it's an issue that needs to be addressed and CMHC should be part of it. We hope that eventually we're going to be able to have a social/affordable housing CMB bond, but until then we will use our position and knowledge to provide solutions to these issues.

Alex Caridia: Thank you Sylvie. Nicholas, what are Canada's plans for issuing green bonds in 2022?

Nicolas Moreau: To support the government's historic investments in climate and environmental initiatives, the government announced in Budget 2021 its intention to it's first ever green bond. Significant progress has been made in preparation for Canada's inaugural green bond issuance, including the establishment of an Interdepartmental Green Bond Committee to support the development of Canada's green bond framework and the ongoing success of the program, the engagement of structuring advisors to support it's development; and the appointment of Sustainalytics to undertake the Second-Party Opinion review process for the framework. The government plans to publish its green bond framework in the final quarter of 2021-22. Issuance of Canada's inaugural green bond is also planned by the end of 2021-22, subject to market conditions.

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NICOLAS MOREAU

Alex Caridia: Thanks Nic. Jason, Jim, any comment on when we are going to see a BC green bond?

Jim Hopkins: Like everyone around this table, whenever we go into meetings with investors, we are asked about ESG and how we are aligned to ESG values. We appreciate investors' interest and we think in British Columbia there's a very strong story to be told and plenty of ESG credentials and favorable outcomes to point to. We think that framing out action through an ESG lens has the greatest prospect for contributing to a better quality of life and that is the objective which is shared by the provinces with investors. Our goal is continuous improvement through ESG outcomes and to help investors understand how we are advancing the BC ESG agenda.

We think there's a better job to be done with the communication of BCS ESG profile and we view that as important for our investor relations. The absence of ESG disclosure and reporting standards for governments is a challenge but does not reduce the importance of reporting to engage with investors. Reporting on ESG places a positive onus on governments to keep ESG top of mind. We want investors to understand our ESG credentials, judge them compelling and accept that buying or holding a BC bond is an investment in ESG. I'd say that BC has been successful in advancing ESG based on third party reviews. Just recently Moody's cited that ESG factors have no material impact on the province of British Columbia's credit rating and that's because they rank our risk exposure to E, S and G factors as relatively low to moderate. MSCI also gave the province a high ESG rating.

The Government of BC is already required by statute to report annually on its climate agenda and provide transparency and accountability on progress. Expanding reporting on the province's full ESG agenda will be a priority for BC. So please watch for more next year.

To your specific question, we have no imminent plan for issuance of a green bond. We will never say that British Columbia is never going to issue a green bond or these labeled bonds. I would note that labelled bonds finance is something that the jurisdiction is going to do anyway. So, if it's a transit system or a water treatment plant, it's not the green bonds that produce a better environmental outcome; the same applies to a gender equity bond or facsimile. It's not the bond that does the work, rather it is a favourable ESG decision on the part of the government to, for example, build that transit system or to do good work for gender equity. ESG outcomes define success and governments should be held to account for their contributions.

The other thing I'll say is that we have a borrowing program that is medium-sized, and we've always been very mindful of liquidity. We would be cautious about how a green bond program might dilute liquidity in the rest of our portfolio, on which we know investors put a lot of value. These are just some current thoughts that we have with respect to actually printing a green bond, Alex. But please know the province places value, first and foremost, on its ESG profile and accountability for ESG outcomes.

Guillaume Pichard: I think I understand very well BC, Manitoba, and other issuers who are coming into the green bond space. We've been able to set up a program as you know, and we've issued C$3.3 billion so far, but our biggest challenge is and will remain finding high quality, green infrastructure projects. We borrow – and I'm speaking for Québec and most of the provinces only for capital expenses in a normal time when we're balancing budgets. So, we're not borrowing to finance fiscal measures and raise debt and label that green. We said, the government is taking a lot of actions in Québec towards green, but a lot of these are fiscal measures and not green projects, so we can't fund these through green bonds. There's a lot of pressure from investors to show up with big green bond programs, and they want the highest quality possible out there. You've got to have these assets to finance as a province, and they have to be of high-quality green. You can't just raise debt, and label that green.

Alex Caridia: Thanks, Guillaume. That's a great perspective and a good point. Mike, from your perspective do you share a similar view?

Mike Manning: Well, I think we recognize quite clearly that Ontario is fortunate to have the projects that we can draw upon for our Green Bond program. We have a lot of planned projects with extensive infrastructure spending expected over the coming decades, which have given us the support for a very viable ongoing Green Bond program. We did a jumbo green bond of C$2.75 billion in July of this year. It was our tenth and our largest green bond, and it really exceeded even our wildest expectations in terms of size. Given the success of that issue, I expect we will do another green bond before the end of the fiscal year. That's probably going to be in January or February. So, we're just going to continue on with our Green Bond issuance program which remains an important component of the borrowing program and has been steadily growing since 2014.

We're fortunate we have extensive infrastructure spending expected over the coming decades, which have given us the support for a very viable green bond program..

MIKE MANNING

Alex Caridia: Thanks Mike. I have a couple of questions for the investors on greenium and the like, but just before moving to those. Susan, is there anything you'd like to say on green bonds? I know that you have been in the Canadian market with two green bond issues a couple of years ago, when normally you don't fund domestically, so I'm wondering if there's any chance you might do that again in 2022?

Susan Love: Thanks Alex, we are definitely overdue in terms of issuing a green bond. We issue in US and Canadian dollars and, as you say, our last two have been in Canadian dollars, so I think, market conditions permitting, we'll probably issue in US dollars first. That said, the future is very bright with our new sustainable business model, and we anticipate growth in our pool of eligible assets for a green bond, so issuing a second domestically is certainly possible. It's also worth noting that recently, with the help of RBC actually, our Green Bond Framework is undergoing an upgrade to allow us to issue green, social, sustainable and transition bonds. The framework will be released early next year and will be more reflective of our new sustainable business model and the interests of investors. EDC issued in the Green Bond market when it was first developing but the markets have evolved beyond green. And that's why we're including transition in our new framework. I think it's important to keep in mind that we can't wait until we have it perfect. Issuers like EDC need to act responsibly in terms of developing this new market. If we want to develop the market beyond just green and look at transition, it's going to take some time, but you have to take the first step.

Upgrading our framework will allow us to start down that path. You'll definitely see a green bond from us next year and, in the future, we hope to lead the way on the transition front.

Alex Caridia: Thanks Susan. I fully agree with that. Moving over to some of the investors. In Canada, we've seen premium pricing for green new issues ("greenium") for a while now. In some ways we are even leading the way, where new issues have come anywhere from one to two basis points through the non-ESG or green curve. That is becoming more mainstream now. We've seen that in the UK market, where the UK DMO recently issued a £6 billion gilts at 2.5-3 bps through the conventional gilts curve. We're seeing that in Europe with the EU recently doing an inaugural €12 billion green deal. And in Canada it's also evident in the secondary market now. If I look at the Ontario and Quebec green bonds, they are anywhere from two to five basis points through the non-green curve. I'm wondering, maybe starting with Dominic, how do you deal with wanting to support the sector and put money to work verses having an obligation to try and get best execution and price on an issue?

Dominic Sicilano: I think it's a very interesting question. We get that from our clients often. I mean, you have to find a balance between the appropriate spread that you're receiving for the product for the risks that you're taking. And then, obviously, as a fund manager, you're trying to see whether that is going to be outperformance or not. That's why in our ESG process, we try not to have an exclusion. You can't have a portfolio that's mandated by a specific account that wants to have exclusions because that's how they view the marketplace. The way we do it is that ESG is just one of the natural factors that you analyze on a day-to-day basis as a credit analyst. And then you're trying to figure out if you being compensated for the spread that these things are priced at, and is there room for that spread to come in? So that's how I think you make some RV in that type of trading, and the governance and social aspects are very important, even more important than the environmental aspect. Those are the things that you see in the news recently with some large Canadian corporations that have had governance issues, those are the things that influence decisions that actually help us step away from the landmines in the portfolio. If you notice the social and governance aspects of those companies on the credit analysis, then you can move forward and say, okay, this is something that I'm not being compensated for in the spread. So that's an example of the work that our team does.

Alex Caridia: Thanks Dominic. Ryan or Abid do you guys have a view on that?

Ryan Goulding: There have been some excellent points brought up. We don't have any specific mandates that require us to buy green label bonds. So, when there is a greenium there, there can be short-term opportunities, but I agree with Dominic that it's not more about buying the label, but actually doing the due diligence on each issuer. Look not just at the projects that they're carving out for a green bond specifically, but more overall what that issuer is doing, and then also going beyond just the green part to consider the S and G elements of ESG too. We don't want to pay out unnecessarily for the reduced liquidity of some of these lines just in terms of outright deal size. We talk to our clients more about the due diligence and the questions that we've been asking, and how the issuers are addressing the E, S and the G, instead of just buying the buying green bonds or whatever label bonds are out there.

It is not free to go green. Greenium will probably be here for a while; something we have to deal with.

ABID DOBANI

Abid Dobani: I'm going to echo Ryan and Dominic's points. When pitching our public green commitment to management, we explained to them it is not free to go green. Greenium will probably be here for a while; something we have to deal with. The concern that we run into is what almost every issuer here has highlighted — the lack of proper projects that this cash can be deployed to. And this is something we hear from issuers that we speak to globally in the green world. So, our concern is this orphan bond situation and orphan bond curve situation. Once we get through three or four different green bonds, all of a sudden you start developing a curve. You can't roll over that curve. There is no active repo market. If cash can be deployed on these projects and it just sits in a general obligation at that point, then what do we do with it? Because we're a longer-term holder, that's the concern that we have.

DOMESTIC AND OFFSHORE FUNDING

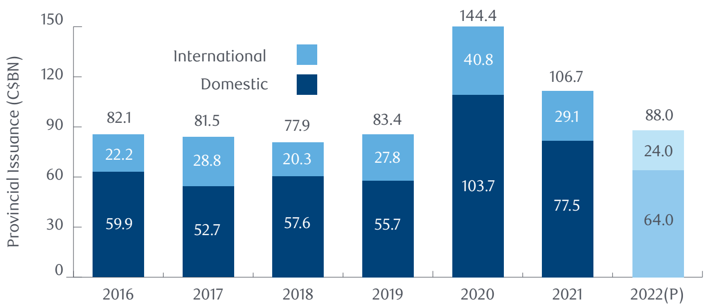
Alex Caridia: Thanks, Abid. Let's move on to the next discussion topic which is around funding in the domestic and offshore markets. Kevin, would you like to give us a quick overview of what we've seen in 2021?

Kevin Martin: Yes, absolutely. So far total issuance has been lower in 2021 versus 2020, which is consistent with the comments we've heard around the table this afternoon, but still elevated from pre-pandemic levels. For the calendar year 2021, we've seen just over C$200 billion of total debt issuance across all Canadian public sector issuers. That's approximately C$50 billion or 20% less than the amount issued by the same group in 2020. However, if you compare that against the pace of issuance in the pre- pandemic years it still represents an elevated year of issuance in 2021. For example, 2021 issuance levels are up 27% from 2019. So we're still at elevated levels, although not at the record levels seen in 2020.

Issuance by the provinces accounted for over half of the total Canadian public sector issuance in 2021 with over C$107 million issued in the calendar year-to-date. That is down 25% from 2020 but up 29% from 2019. Pandemic-related expenses have eased, and the provinces have received higher transfer and grant payments from the federal government. This has helped relieve fiscal pressure and generally led to a reduction in deficits and borrowing requirements for most provinces.

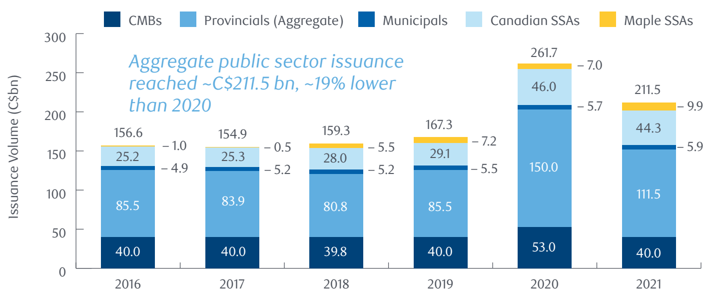
AIf we drill down and look at the dynamics of provincial borrowing this year, it's consistent with what we've seen in past years in terms of

ANNUAL PROVINCIAL DOMESTIC & OFFSHORE ISSUANCES



Source: RBC Capital Markets

AGGREGATE PUBLIC SECTOR TOTAL ISSUANCE (ALL CURRENCIES)



Source: RBC Capital Markets

international versus domestic. The provinces have issued 73% of their total borrowing requirements in the domestic Canadian market, which is in line with the traditional 70-80% range that we've seen in recent years.

Pandemic-related expenses have eased and the provinces have received higher transfer and grant payments from the federal government. This has helped relieve fiscal pressure and generally led to a reduction in deficits and borrowing requirements for most provinces.

KEVIN MARTIN

In 2021, 90% of the Provincial issuance in Canada was in the 10-year or 30-year maturities. That was evenly split 45% of total domestic issuance in 10's and 45% in 30's. Another interesting thing about 2021 is no floating rate notes were issued by any of the provinces. You've got to go back over 20 years before you get a year where we've gone with no FRN issuance by the provinces. There's definitely new dynamics at play in the FRN market. There is a transition going on in the IBOR space, which I think has given investors and issuers some sense of hesitation right now on FRNs.

It is also interesting to note that there was a sharp drop in ultra- long issuance (that is maturities greater than 12 deals) by the provinces in 2020. I do think that makes sense if you look at what's happening in the long end of the Canada rates curve now – there is a positively sloped curve from 2051's out to 2064's; it's not inverted anymore, so the economics for the province to issue further out the curve don't make quite as much sense.

As we move into Q1 2022 and the traditional budget period for the Canadian provinces, we would expect the recovery trend to continue for provincial finances and the improving fiscal picture. We believe this will lead to a normalization in the borrowing needs of the provinces back towards pre-pandemic levels. At RBC we're forecasting approximately $90 billion in total provincial issuance in 2022 (roughly 15% less than 2021).

Alex Caridia: Thanks very much. I'll give all of the issuers a chance to comment on the funding program for the upcoming year. Let's start with Mike.

Mike Manning: Sure. I guess the big news this year is our borrowing program is quite a bit smaller. We're looking at C$42 billion versus C$59.8 billion last year, which was an all-time high. The domestic market has been a very receptive component. To-date we've done 28 domestic syndicated deals, and as Kevin said most of them have been 10s and longs, so that's been quite good. That's given us for that sector about C$22.25 billion. Last year there were 38 domestic syndicated deals for a total of C$35.9 billion, so that's a big difference. I think the big change this year is the number of large order (carve-out) deals. This year we've had four carve-out orders totaling C$1.8 billion. Last year we had 14 carve-out orders for C$6.6 billion. I think part of that was due to the disruptive markets that we had as we started into the pandemic.

The domestic market has been very receptive: to date we've done 28 domestic syndicated deals.

MIKE MANNING

Alex Caridia: Thanks Mike. Guillaume, can you touch on Quebec's experience please?

Guillaume Pichard: The market has been very receptive domestically. We've hit a soft patch recently since rates started to be a bit more volatile, but nonetheless, this year, we've borrowed C$11 billion on the Canadian market. And, as I said a bit earlier, our average duration for the year is18 years, all due to the domestic market where we can issue long bonds. So, there is strong demand for long products for every province. At our recent fiscal update, we revised our borrowing requirements and our program now stands at C$24.5 billion, so we're 70% done. Very comfortable where we are right now versus the time of the year. I think there's still a few good weeks for issuance until the end of this year. And usually, the first trimester of the year is very supportive of issuance. So, we're in a good place.

Going forward, I think on the domestic side, it's going to be more of the same for us – finding the demand, issuing 10s and longs. The lack of FRNs this year, on our part, is due to the uncertainty surrounding the transition from CDOR to CORRA. We don't want to issue FRNs under either CDOR or CORRA right now until there's certainty and we want investors to know what rate they are going to receive when they buy our debt, which I think is common sense. So we're still on the sideline, and I do hope this issue will get more clarity in the future.

> *We don't want to issue FRNs under either CDOR or CORRA right now until there's certainty and we want investors to know what rate they are going to receive when they buy our debt.*
>
> *GUILLAUME PICHARD*

Alex Caridia: Thanks Guillaume. Steve, Alberta haven't been issuing in the domestic market for a while now.

Stephen Thompson: We haven't been in any market for a while. It's been an interesting year obviously. We've taken about C$11 billion out of the program on fiscal improvements. But on top of that, we have had some cash windfalls on reclaiming some projects and some debt repayment from some of our loans to our municipal clients. That has really left us with a very strong cash position. So, if you look at the program, it might look like we're a little behind the curve on it, but we don't really rush to finish a program for March 31st. We are constantly managing the borrowing to the next 12 months' needs based on our assessment of where things are going, and things have just really improved dramatically for us. So overall in the program, even with a significant decline like that, we take a scalable approach to the market, the way we always have, and in Canada that's focusing on 10s and longs as the best benchmarks for us. We will try to keep them liquid to the extent that we can. The market has not been, as Guillaume says, terribly receptive recently, but we really haven't been looking to issue. We'll continue to focus on those areas for certain funding projects coming up and we may come down the curve a little bit, but that won't be until the New Year. I wouldn't expect to see an Alberta bond in the market until at least January if not later, just based on where we're sitting on the cash front. That oil is just pumping away.

On the international front, we always say somewhere between 30 to 40% of the program. We do view US dollars particularly, less so euros, as a core part of the program. Still, we haven't done an offshore deal in a while. So, there's a potential, early in the first quarter of 2022 that we look at that market. Because we're not under the pressures we have been in the past, we will be a little more aggressive when it comes to seeking out the most attractive financing levels. But that is, I think, a pretty common story across the board for others.

Alex Caridia: Thanks Steve. Jim or Jason, you have a comment on British Columbia's funding requirements?

Jason Lewis: Yes, for sure. We're unwinding some of our cash management strategies that were put in place to address uncertainties emerging through the early-COVID period; and so now it's about addressing funding requirements alongside getting our cash balances and short-term refinancing exposures a little lower. We're relaxing that earlier target of keeping three months' funding ahead of pace. Certainly, if another episode comes up again that requires emergency funding, we want to be well positioned and ahead of the curve, so to speak, so that we can feel comfortable to open up the safety valves again. We don't know what the future holds.

The February 2022 budget will be revealing for us in provincial treasury as well as to the street, I'm sure. So, it's prudent for us to get back on track with focusing on the liquidity of our domestic 10s and 30s, like we did in the pre-COVID era. As for FRNs, we have no focus in that space, not just because of the prospects for CORRA vs CDOR transition and such, but it doesn't typically suit our funding which is largely towards capital projects and cash flow management.

We started the fiscal year with the budget that had a C$19 billion program. It's now forecast to be around $10.5 billion, with a billion-dollar forecast allowance provision, as per the recent Q2 report.

We've completed around C$7.5 billion. So, if there even is still C$3 billion left to borrow, we'll be focusing on 10s and 30s in the domestic market, and opportunistically for longer-dates in international markets when pricing is competitive to our domestic curve.

Alex Caridia: Thanks very much Jason. Sylvie, on the CMHC side I guess it's fairly programmatic. You went up in terms of issuance volumes in 2020, but it is back down to normal levels in 2021 and I guess not much change is expected for 2022?

Sylvie Legros: Yes, we're pretty boring in that respect. Every year it's a C$40 billion issuance ceiling and we're expecting no change – unless there is another crisis, like 2020 where we had our ceiling increased to C$60 billion. In 2021 we went back to C$40 billion. It's going to be the same areas of focus for us, where we are targeting a minimum threshold on international distribution and then the priority of issuance is focused on the 10-year fixed rate issues, and then the 5-year fixed rate issue. Because we're capped at C$40 billion in total issuance, we have to find room for the increase in 10-year fixed rate issuance, so we have reduced the amount of 5-year FRN issuance which is expected to remain smaller. Typically, we receive our authorization letter from the federal Department of Finance around mid-December. But we have no expectation that the ceiling of C$40 billion is going to change in the near future.

Alex Caridia: Thanks very much, I know you mentioned EDC's number earlier on in the discussion, is there anything else you'd like to mention on your funding program expectations next year?

Susan Love: We'd like to be more active than we've been this year, so it's comforting to hear some others around the table have been in the same situation as EDC, managing high levels of liquidity. With borrowing needs of US$10-12 billion for next year, we plan to return to a more traditional funding program. We will look for opportunities to issue public transactions in US dollars, Australian dollars, New Zealand dollars, Euros and pounds sterling. As previously mentioned, we plan to issue at least one green bond. We are prepared for the transition from US dollar LIBOR to the risk-free-rate, SOFR (Secured Overnight Financing Rate). We will also consider issuing a floating rate note using SOFR as the reference rate. The remaining funding for 2022 will come from private placements in US dollars and emerging market currencies.

Alex Caridia: Thanks, Nicoleta on the Manitoba side?

Nicoleta Oprea: Borrowing requirements for the current year are expected to be at C$5.6 billion. That does include six months of pre-funding for the next fiscal year, So far, of the current year requirements, we have funded about 87%, and have found the domestic market to be receptive to our new issues. And we'll continue to maintain a strong liquidity position. The focus of our program will continue to be the domestic market, looking at 5s, 10s, 30s. This year has been mostly 10s and 30s. We've left the 5-year area of the curve for US dollar issuance. We did go to the US, in 7s, and we were happy to be able to get it done. The focus is going to be both domestic and international issuance, as long as international issuance is competitive with the domestic market.

Alex Caridia: Thank you Nicoleta. And Renaud, how has the PSP funding program evolved over the year?

Renaud De Jaham: This fiscal year, our program is roughly C$6 billion. We've issued only once in Canada, at the beginning of the year to focus more on the US GMTN program. So, our borrowing programs are really dependent on the assets under management of PSP. This is growing pretty fast, so you can expect the program also to grow organically. So, for next fiscal year, you can expect us to issue roughly the same amount. Roughly C$6 billion. And the year after it, maybe C$6- 7 billion, C$7-8 billion, it will certainly accelerate over time.

In the past, our focus was building a yield curve in Canada using the domestic market. This year, what we've done is focused more on the US market with three, five and seven year benchmark transactions, so we expect to complete this fiscal year to come once in the domestic market and eventually one non-benchmark transaction. Eventually a floater in the US (SOFR), but this is to be analyzed internally. So, for next fiscal year, there will definitely be room for us to issue 3s, 5s and 7s again in the US. The idea for us is to maintain a presence there and to have some sort of stability and a disciplined approach in adding liquidity, and it's really important for us to also do benchmark sizes. Of course, there will be room for a first Euro transaction. What we've said when we started the offshore programs, is that we really want to maintain that presence in Canada – so at least one issuance each year in Canada, if not two. This is more or less what the program is: roughly C$6 billion next year and C$6-7 billion thereafter.

Our borrowing programs are really dependent on the assets under management of PSP. This is growing pretty fast, so you can expect the program also to grow organically.

RENAUD DE JAHAM

Alex Caridia: Thanks Renaud. The focus on international issues feeds really well into the next topic, both in terms of international issuances in other currencies but also international investors looking at Canada as a high yielding currency. And we've seen a lot of that across the various currencies, whether it's euros or Australian dollars, or the staple US dollar benchmarks. Jigme, can you comment on overall international funding and trends?

Jigme Shingsar: Yes, funding conditions for Canadian issues in the international markets has been very robust. Like the overall market, we did see a spike issuance last year but issuance levels this year have normalized to just a couple billion above 2019. If anything, the international markets would have been probably more undersupplied in Canadian product were it not for the growth of issuance out of the crown agencies like PSP. This mitigated some of the drop in overall volumes out of our traditional Canadian SSA issuers. But I think the main point is there's a lot of untapped capacity in the international markets for Canadian SSAs, and the range of opportunities continues to grow, whether it's the range of currencies or the choice of maturities.

On the latter point, I think duration has opened up a little bit more in dollars and in Australian dollars over the last little while; it is also starting to open up in the sterling and certainly very, very attractive in euros. So, there's plenty of capacity - probably more than the provinces need. I think that also then increases the likelihood that there will be adequate price tension to make the levels competitive with some of the domestic markets. And over the last year or two we've seen the offshore markets become more competitive versus the domestic market, much more often than we would have seen in the previous two decades. So, the main message is that the international markets will remain a competitive source of funding for the Canadians and generally speaking, offshore investors still view Canada in a very good light. If anything, international investors could end up being a little bit underweight Canadian issuers just because the pace of issuance out of Canada has not really kept pace with the growth of the SSA market overall.

There's a lot of untapped capacity in the international markets for Canadian SSAs, and the range of opportunities continues to grow, whether it's the range of currencies or the choice of maturities.

JIGME SHINGSAR

Alex Caridia: Thanks, Jigme. You make a good point on the sterling side of things. That's something which has been sporadic over the last few years for the provinces, but we saw Ontario earlier in 2021 issue the joint largest sterling deal from any SSA, with the World Bank, at £1.75 billion. So that's maybe a good segue to Mike. Can you comment on Ontario's offshore issuance activities and any interesting opportunities in other currencies that the province has looked at?

Mike Manning: Yes, I think we were fortunate in the last fiscal year to be able to do £2.75 billion sterling. We really have been toying with the idea of sterling being considered a core market for us. So that's a good sign. It's been a little bit disappointing we haven't had the follow-through this year, but having said that, our program is a lot smaller and we're doing a lot less foreign borrowings so far this year. I think we've done C$7.2 billion of international borrowing, and that's versus a total of C$20.7 billion all of last year. So, it's down quite a bit. We're always monitoring foreign markets. We did a 250 million Swiss franc 12-year deal earlier this year. We also did a $35 million Australian dollar 7-year issue, and this was our first Australian dollar deal in quite a while. We've also been using euro private placements in the 20-25 year area, which is not a new market for us as we did some of that last year, but it looks like that market is now becoming more viable for both us and other provincial borrowers.

Alex Caridia: Thanks Mike. Steve, talking about sterling, we haven't seen you in that market for a little while now, but any comment on Alberta's offshore funding program?

Stephen Thompson: Yes sure. As I said earlier, the US dollar market is definitely a core market for us. For other international currencies, it is more dependent on how the cost of financing looks relative to our domestic program. We have had some good sterling issuances in the past. The one thing that I'd love to see, that we haven't seen in the past, is a little more duration out of these markets. So sterling as an example, if we get into a long-dated Sterling deal at rates close to CAD, that would be very attractive to us. It's really the same in any market, I mean, you basically have a hard maturity cap on dollars at ten years unless you're doing private placements.

For the core markets, I still see us as 25-30% of the program in dollars or euros interchangeably. We'll look at issuance opportunities in the other foreign currencies and evaluate them versus our cost of financing in Canada. And those markets have been good to us. We've done ten currencies over the last ten years at very competitive funding levels compared to our domestic program. It is something that we monitor constantly. We're happy to hear the reverse inquiries coming from these markets. The other thing that I love about those niche markets is it does get you in front of investors that you may not have seen before, or that may be interested in delving into the credit, and maybe that will get some of those international players into the CAD space. So, we will continue to be very active in those markets. We will maintain all of our programs and we're ready to go when the right opportunity presents itself. I don't know if we're going to be adding anything new or not, but we have space to add something in the short end in Europe, maybe a CP program or something like that. We will keep as many markets open for ourselves as possible, just in case.

Alex Caridia: Thanks, Steve. Nicoleta, Manitoba recently issued in the Euro private placement market, can you comment on the province's offshore financing program?

Nicoleta Oprea: We were happy to be able to get the recent euro private placement done. It was a good size as well. Compared to last year, we've done a good amount of borrowing in international markets this year. However, it is still well below what we've done in the past. In previous years, we've done 30 to 40% in international markets. We would like to see that again. We'll continue to monitor international markets. Offshore private placements have been really good for us. We have been able to get those done at a competitive cost of financing and we're going to continue to look for opportunities in these markets.

Alex Caridia: Thanks, Nicoleta. Guillaume, do you want to give us an overview on Quebec's plans offshore?

Guillaume Pichard: Sure, thanks Alex. We've done our biggest euro issue this year, a €2.5 billion 10-year issue. The strategy for us on the foreign markets is the same as we've done before, it's to be ready every day, any day to be able to pull the trigger on an opportunity that's there. Our core markets are euro and US dollar. We returned to the Swiss market this year; we were able to pull the trigger on that one. We'd love to do a sterling; we were very well received in this market with recent issues in 2017, 2018 and 2019. It's just the funding levels and demand has just been playing cat and mouse for a few years. So, we'll continue to monitor. And the same goes for the Australian market, if there are opportunities there, we will look at them. Given the size of our borrowing program, we definitely need to diversify. We have our finger on it every day.

Alex Caridia: Thanks, Guillaume. Jason, can you give us an international funding update from the BC side?

Jason Lewis: We're constantly monitoring global markets. We're driven by the all-in financing levels achievable relative to our domestic Canadian funding costs. We have no set pricing target but are always happy to discuss opportunities. We were very pleased to have had two really successful global deals in the US dollar market in 2021; our largest books and deal sizes, at 5-years and 10-years. We are looking forward to an opportunity to engage global investors in the euro market some time, too, if that comparative cost advantage is favorable and stars align. Frankly,

it could be any currency or format, not just global public issuance that we would be happy discussing. I'd add, too, that our investor relations activity this last year or so has picked up, with the help of dealers like yourselves at RBC. We are more available ad hoc with virtual one-on-one meetings across the globe. It's a noticeable evolution through this COVID period.

Alex Caridia: Thanks Jason. Thank you everyone for taking the time for our discussion today. It was great to have the point of view from the provinces, the crown corporations, the federal government and investors around the same virtual table. We look forward to next year's discussion.

SELECT RBC-LED TRANSACTIONS IN 2021

KBN
USD 2.0 billion
MS+9bps
due 2026
Joint Bookrunner
January 2021

BANK OF ENGLAND
USD2.0 billion
CT3+12bps
due 2024
Joint Bookrunner & B&D
March 2021

European Investment Bank The EU bank
USD4.0 billion
MS-3bps
due 2024
Joint Bookrunner & B&D
April 2021

KOMMUNEKREDIT
USD1.0 billion
MS+6bps
due 2026
Joint Bookrunner
January 2021

Die Landesregierung Nordrhein-Westfalen
USD1.75 billion
MS+5bps
due 2026
Joint Bookrunner & B&D
April 2021

FMS Wertmanagement
USD500 million
MS-2bps
due 2024
Joint Bookrunner
April 2021

KFW
USD5.0 billion
MS-3bps
due 2024
Joint Bookrunner and B&D
July 2021

MuniFin
USD1.0 billion
MS+2bps
due 2026
Joint Bookrunner & B&D
August 2021

OeKB
USD1.75 billion
SOFR MS+16bps
due 2024
Joint Bookrunner
September 2021

SEK
GBP450 million
UKT+29bps
due 2025
Joint Bookrunner & B&D
January 2021

European Investment Bank The EU bank
GBP1.5 billion
UKT+24bps
due 2026
Joint Bookrunner
January 2021

L-BANK Staatsbank für Baden-Württemberg
GBP250 million
UKT+31bps
due 2025
Joint Bookrunner
September 2021

NWB BANK
GBP350 million
UKT+32bps
due 2026
Joint Bookrunner & B&D
October 2021

IDA
GBP1.5 billion
UKT+29bps
due 2028 (SDB)
Joint Bookrunner
September 2021

United Kingdom Debt Management Office
GBP6 billion
UKT-1bps
1.500% due Jul-53 (Green)
Joint Bookrunner
October 2021

ADB
AUD700 million
ASW+17bps
due 2025 (Gender)
Joint Bookrunner
April 2021

SELECT RBC-LED TRANSACTIONS IN 2021

AUD600 million
ASW+24bps
due 2026 (Social)
Joint Bookrunner
June 2021

AUD400 million
ASW+30bps
due 2026 (Social)
Joint Bookrunner
June 2021

European Investment Bank The EU bank

AUD1.25 billion
ASW+26bps
due 2027 (CAB)
Joint Bookrunner
January 2021

rentenbank

AUD500 million
ASW-2bps
due 2024 (Green)
Joint Bookrunner
September 2021

CAD1.25 billion
MS-15bps
due 2026 (Green)
Joint Bookrunner
February 2021

CAD750 million
MS-18bps
due 2026 (SDB)
Joint Bookrunner
June 2021

THE WORLD BANK

USD2.35 billion & USD1.15 billion
Dual-Tranche due 2023 (SDB)
Tap due Aug-27(SDB)
Joint Bookrunner
January 2021

USD 700 million
SOFR+19bps
due 2026
Joint Bookrunner
May 2021

USD500 million
SOFR+22bps
due 2026
Joint Bookrunner & B&D
July 2021

European Investment Bank The EU bank

GBP1.5 billion
SONIA+18bps
due 2027
Joint Bookrunner
January 2021

GBP500 million
SONIA+10bps
due 2024
Joint Bookrunner & B&D
June 2021

CPP INVESTMENT BOARD

GBP750 million
SONIA+20bps
due 2026
Joint Bookrunner
June 2021

GIB_Multipage_02.22