

# Offi-Chile the largest sovereign SLB issuer

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On 27 Jun 2023, Chile issued \$1.15bn 12y and \$1.1bn 30y Sustainability-Linked Bonds (SLB), and the next day, a €0.75bn 11y SLB.

These issuances elevate Chile to the third largest issuer of SLBs (see Table 1). The maturities of its SLBs also stand out. Limited general market issuance is of maturity greater than ten years (see Table 2), and longer dated bonds have the potential for greater materiality.

We review this new issuance, both in terms of the materiality of its structure, and its option pricing.<sup>1</sup>

Table 1. SLB issuance for issuers greater than \$2.5bn. Source: Bloomberg, accessed 28 Jun 2023.

Issuer	Count of SLBs	Total SLB Issued (\$ bn)
ENEL FINANCE INTL NV	28	29.36
ENBRIDGE INC	5	5.12
REPUBLIC OF CHILE	4	5.07
TEVA PHARM FNC NL II	3	4.39
ENI SPA	3	4.16
ASTM SPA	3	3.36
FORVIA	3	3.16
TEVA PHARMACEUTICALS NE	4	3.10
CARREFOUR SA	4	3.05
SUZANO AUSTRIA GMBH	3	2.75
TELUS CORP	4	2.71

- **Chile is leading the charge in sovereign SLB issuance.** We welcome more use of SLBs by sovereigns, as they can be an effective tool to communicate longer-dated sustainability targets beyond the political cycle.
- **The new structures offer enhanced materiality;** the step-up coupons are higher and paid for longer. **We hope this sets a positive precedent for the market to follow.**
- **Model pricing suggests the targets are relatively achievable,** which means the option price represents a low percentage of total spread.

Table 2. SLB issuance with outstanding maturity greater than ten years. Source: Bloomberg, accessed 28 Jun 2023.

Issuer	ISIN	Amount Issued (\$ bn)	Maturity date
REPUBLIC OF CHILE	US168863EA21	1.10	05-Jan-54
REPUBLIC OF CHILE	US168863DY16	2.00	07-Mar-42
ENEL FINANCE INTL NV	XS2353182376	1.19	17-Jun-36
REPUBLIC OF CHILE	US168863DZ80	1.15	07-Jan-36
REPUBLICA ORIENT URUGUAY	US760942BE11	1.50	28-Oct-34
ENEL FINANCE INTL NV	XS2390400807	1.46	28-Sep-34
REPUBLIC OF CHILE	XS2645248225	0.82	05-Jul-34
ASTM SPA	XS2412267788	1.12	25-Nov-33

<sup>1</sup> Described in “[An option pricing approach for sustainability-linked bonds](#)”, AFII, 8 Nov 2022.

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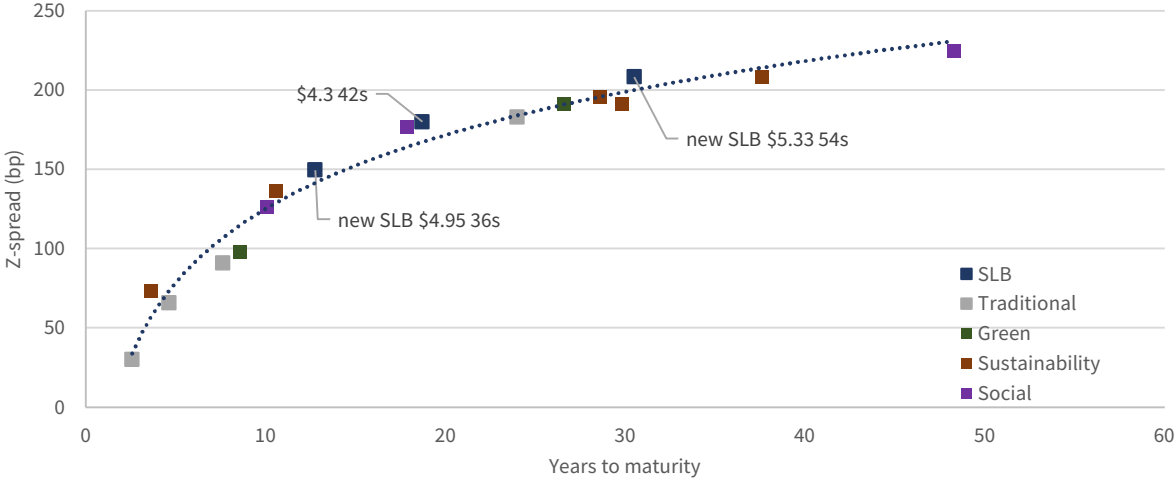
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# Chile SLB issuance

Chile first entered the SLB market in Mar 2022 with a \$2bn 20y deal.<sup>2</sup> With their three new issues in Jun 2023, they are the flagship sovereign issuer.<sup>3</sup>

Figure 1 shows the current bond spreads of Chile’s USD debt. The three USD SLBs all look slightly wide of the curve, especially the new 30y SLB, which is wide to a longer-dated sustainability bond.

Figure 1. Chile USD bond z spreads. Source: Bloomberg, accessed 28 Jun 2023.



The original SLB had two Key Performance Indicators (KPI), each with a 12.5bp step-up. The first linked both to an absolute annual GHG emissions reduction by 2030 and the cumulative GHG emissions until that date. The second is linked to increasing the share of renewables in electricity generation.

Our analysis concluded that the KPIs were sensible, but that the structure was let down due to low materiality of coupon increases.<sup>2</sup> There was also a high degree of correlation between the two chosen KPIs, considering the country’s energy mix considerable dependency on fossil fuels.<sup>4,5</sup>

The three new SLBs retain the first KPI and replace the second with a target on 40% female board representation by 2031. This second KPI has the advantage of being much less correlated to the first. This diversification can have potential for higher option value, and is consequently beneficial for the issuer from a pricing perspective.

## Materiality of new structures

SLBs have two criteria that impact the option value. The first is materiality of the structure, i.e. what step-up is paid and for how long. Without a minimal degree of materiality, there will never be significant option value. The second is ambitiousness, i.e. how likely is the target to be achieved. If a structure is material and ambitious, then it can have a high option price, which can offer value to investors and issuers.

<sup>2</sup> For full details and option pricing please see “Chile sustainability-linked bond: Optionality analysis”, AFII, 5 Apr 2022.

<sup>3</sup> SLBs amongst sovereigns are still rare. Uruguay have also issued a symmetric step-up/step-down structure which is covered in more details in “Uruguay Sustainability-Linked Bond: market update”, AFII, 5 Jun 2023.

<sup>4</sup> “Chile: Energy Country Profile”, Our World in Data. Accessed 28 June 2023.

<sup>5</sup> As of 2018, energy accounted for more than 77% of the country’s total emissions. See “Emissions Summary for Chile”, UNFCCC. Accessed 28 June 2023.

It can be helpful to analyse these two characteristics separately, to understand the value and impact of a given structure. We have proposed a standardisation to the materiality of SLBs, where the discounted total step-up coupon using an illustrative 50% of step is more than 1% of notional. We call this a ‘Greenback SLB’.<sup>6</sup> Very few existing SLBs structures come close to achieving this standard.

What is interesting about the new Chile SLBs is their materiality. Observation dates for GHG emissions are unchanged from the first SLB issued in 2022, and so there are more bond coupons after the potential step-up.

The € bond offers a single payment of 50bp per KPI at maturity, which is relatively standard.

The \$12y bond offers 25bp per KPI paid for 5 years, which is the highest cumulative payment of the set. This compares well with market standard of a maximum 25bp step-up. Its Greenback measurement is 0.9% meaning it nearly achieves Greenback status.

The \$30y bond pays just 5bp, but for 23 years. Once discounted, this ends up being slightly lower, and also does not achieve Greenback status. Full coupon details are in Table 3.<sup>7</sup> Even though Greenback status is not achieved, we commend the \$ structures for paying more material step-ups than the current market standard.

Table 3. Materiality of Chile new SLBs. Source: Bloomberg, AFII.

Bond	ISIN	Coupon Step-up (per KPI)	Years step is paid	Max Cumulative Step-up	Greenback measurement	Is Greenback
CHILE \$4.95 36s	US168863DZ80	0.25%	5	2.50%	0.90%	No
CHILE \$5.33 54s	US168863EA21	0.05%	23	2.30%	0.77%	No
CHILE €4.125 33s	XS2645248225	0.50%	1	1.00%	0.40%	No

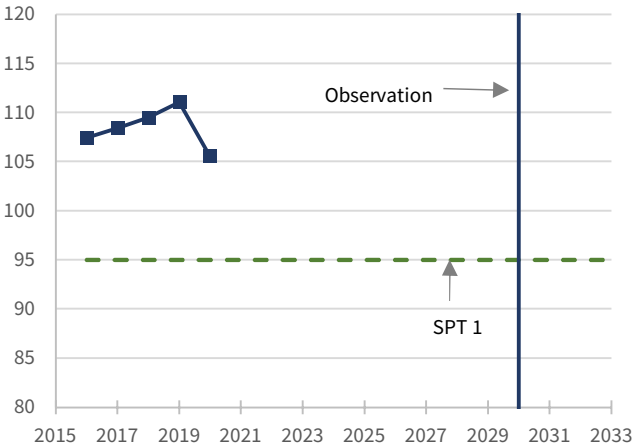
## KPIs and option pricing

### KPI1

The first KPI is linked to the country’s National Determined Contribution<sup>8</sup> with a target of achieving an annual GHG emissions reduction to 95 MtCO<sub>2e</sub> by 2030 (from a 2018 baseline of 109.46) while maintaining a cumulative carbon budget of 1,100 MtCO<sub>2e</sub> between 2020 and 2030. The coupon will step-up if either of these targets is missed.

The country’s usage of an absolute and a cumulative emissions target is identical to its first SLB and remains a

Figure 2. Adjusted Chile GHG emissions since 2016. Sources: 2020 and 2023 SLB Frameworks.



<sup>6</sup> For full details please see “[Greenback SLBs: an impact standardisation proposal](#)”, AFII, 10 May 2023.

<sup>7</sup> Note the final bond prospectuses are not available yet, and so we have assumed that step-ups begin accruing from the first coupon date following the observation date, apart from the € deal where it is reported the coupon is only paid at maturity.

<sup>8</sup> “[Chile’s Nationally Determined Contribution - update 2020](#)”, Gobierno de Chile, 2020.

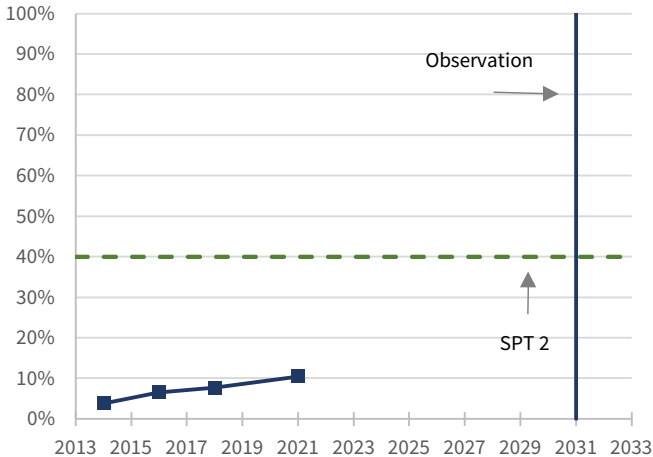
feature uncommon in the SLB market. We believe this is a sensible approach which should ensure alignment of emissions observed at a single point in time and its trajectory. Applying a drift of -2.71%p.a. and a volatility of 8.9% as calculated in our analysis of Chile’s first SLB issuance,<sup>2</sup> we evaluate the probability of meeting both emissions targets to be 74%.<sup>9</sup>

**KPI2**

The second KPI measures female board membership at companies subject to the oversight of the Financial Market Commission. The target is 40% by 30 Dec 2031.

Increasing diversity on boards has been on the agenda in Chile for a few years, with the government even providing a list of candidates.<sup>10</sup> Chile has passed a law mandating a 60% ceiling for either gender at state-owned companies, and a similar bill was presented to Congress in Mar 2017 suggesting the same limit, but there has been little progress.<sup>11</sup>

Figure 3. Percentage of board seats held by women in Chile. Source: Deloitte.



Embedding the target in a long-dated SLB, is an effective method of making commitments beyond the current election cycle.

Data shows (in Figure 3) that the percentage has increased from 3.8% in 2014 to 10.5% in 2021.<sup>11</sup> This does look to fall far short of the 40% target, however there are ten years within which to improve. Extrapolating historic improvements suggests a forward of 60%, i.e. well in excess of the target. We therefore estimate a 75% probability of meeting the target.

**Option pricing**

KPI analysis yields an estimated 74% probability of meeting KPI1, and 75% for KPI2. These numbers are high, suggesting they are somewhat unambitious. The observation dates are very far in the future, so as with any volatile stochastic process, there will be a higher chance of meeting the targets. With long observation dates, targets are required to be even higher to be considered ambitious.

Using this data, we calculate the option prices in Table 4, where the option price is between 1.2-3.7% of issuance spread.

Table 4. Chile SLBs, issuance spread and option price. Source: Bloomberg, AFII.

Bond	ISIN	Issuance spread (bp)	Option price (bp)	Option price as percentage of issuance spread
CHILE \$4.95 36s	US168863DZ80	123	4.5	3.7%
CHILE \$5.33 54s	US168863EA21	148	1.8	1.2%
CHILE €4.125 33s	XS2645248225	128	2.1	1.6%

<sup>9</sup> Both KPI1a and KPI1b follow the same underlying dynamics in terms of volatility and drift. Nevertheless, pricing both conditions brings additional computational complexity requiring the use of Monte Carlo simulations.

<sup>10</sup> “Need Female Board Members? Chile’s Government Has a List for You”, Bloomberg, 11 May 2019.

<sup>11</sup> “Women in the boardroom, a Global perspective”, Deloitte, accessed 28 Jun 2023.

## Conclusions

**Chile's recent SLB issuance moves it to third place in terms of its total volume.** SLBs for sovereigns are considered particularly useful as they allow commitments beyond the standard election cycle. **We hope this sizeable Chilean issuance leads more sovereigns into the space.**

**These SLBs should be praised for being structured with higher materiality.** They do not quite achieve AFII 'Greenback SLB' status, but they are an improvement on previous issuance. **This also may lead the market standard to evolve towards step-ups of higher materiality.**

Historic KPI data suggests the targets should be achievable, and this reduces the option value. **Increasing ambition level will drive a higher option value, which should lead to lower funding costs for issuers.**

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