

Ukrainian Fixed Income Market

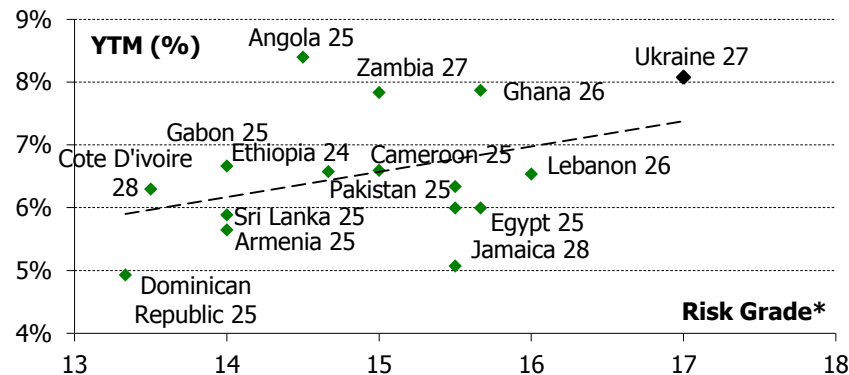


Ukraine's Sovereign In Global Context

Highlights

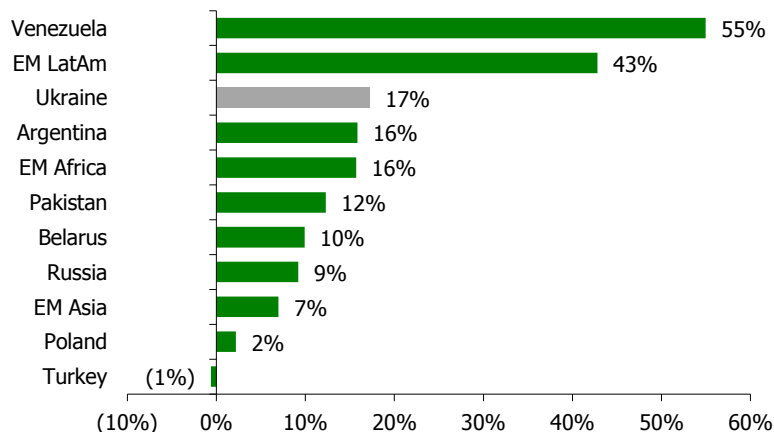
- Ukrainian sovereign bonds returned 17% last year, similar to EM Africa and Argentina's performance. Following a post-restructuring rally, the newly issued Eurobonds traded down in early 2016 on increased political uncertainty and a related delay to IMF financing. With politics stabilizing and cooperation with the IMF renewed in mid-2016, the benchmark Ukraine 27s dropped in yield to 8.74% (mid) by end-2016, trading a mere 40bp above their low of 8.30% on Nov. 18, 2015, just after the issuance of restructured Eurobonds. In February-March 2017, the sovereign curve faced a steepening trend, with short-end YTM's reaching 7.18% and the longest-dated Ukraine 27s settling at 9.10%. Last year, the EMBIG Ukraine spread compressed by 140bp to around 660bp at end-2016.
- Ukraine is rated Caa3/B-/B- by Moody's/S&P/Fitch, respectively, implying an aggregate risk grade of 17.0 on our scale, one of the lowest in the EM universe. In 2016, Ukraine enjoyed a credit rating upgrade from Fitch to B- from CCC, while two other rating agencies confirmed their view.

YTM: Ukraine and GEM Peers



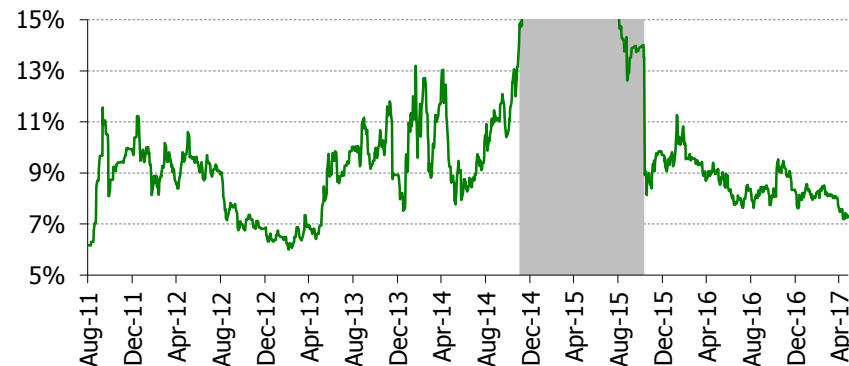
Note: *Risk Grade is a numerical representation of a composite country rating (average of Moody's, S&P and Fitch). A higher grade corresponds to a lower rating and thus implies higher risk. For example, a country with A2 from Moody's and A from Fitch and S&P is assigned a risk grade of 6, while a country with B3 from Moody's and B- from S&P and Fitch has a risk grade of 16; as of Feb. 18, 2017

EM Sovereign Returns in 2016*



Note: *based on EMBIG yield.

Ukraine 5Y Generic Yield* (% p.a.)



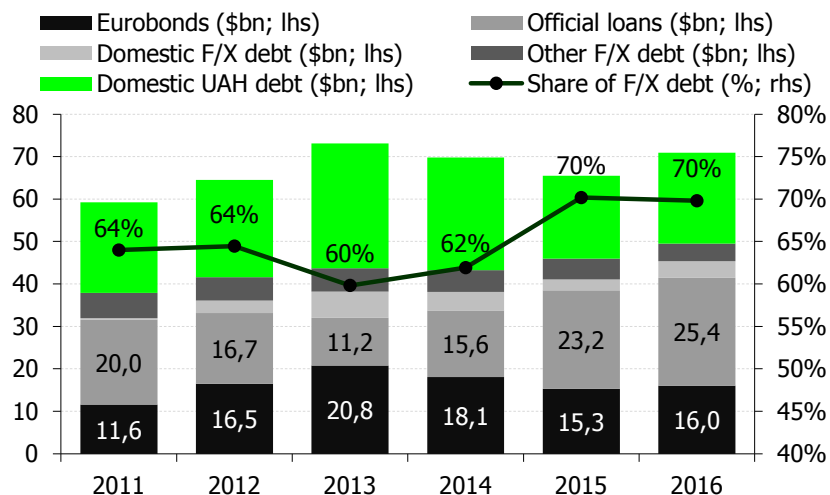
Note: *yields in shaded area are not representative, as in anticipation of the restructuring, sovereigns were traded based on price levels; yields on new restructured bonds are shown from Nov. 12, 2015

Public Debt Profile

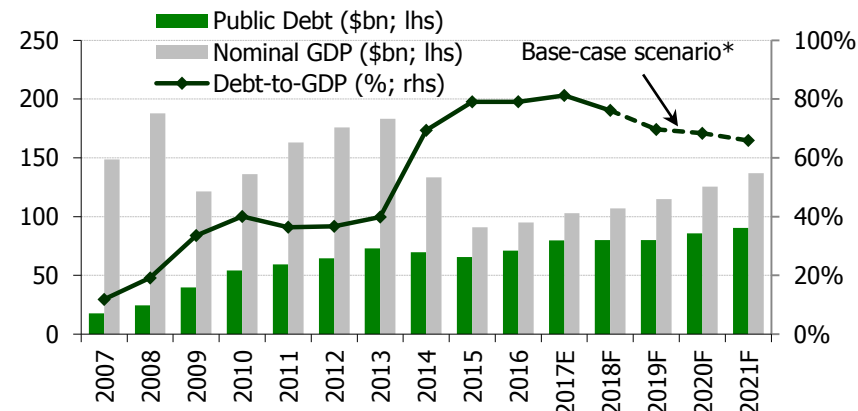
Highlights

- Ukraine's debt-to-GDP ratio settled at 79% in 2016 thanks to macroeconomic stabilization, sovereign debt restructuring and prudent fiscal and borrowing policies.
- Public debt sustainability does not emerge as a concern under our base-case assumptions of steady economic growth, stable currency and fiscal prudence. With F/X liabilities accounting for 70% of total debt, future debt dynamics are sensitive to currency moves. A one-off currency drop of 10% in 2017 (in addition to our forecast of 6.2% hryvnia weakening) would add an est. 1.7pp to end-2021 debt-to-GDP, while persistent currency devaluation at the same annual magnitude would add 11pp.
- Ukraine faces a moderate \$2.6bn of external debt service payments in 2017 (2.7% of GDP), compared to \$1.7bn paid in 2016. External debt costs will rise to \$7.5bn in 2019 on account of maturing Eurobonds and U.S. loan guarantee.

Breakdown of Public Debt (\$bn)

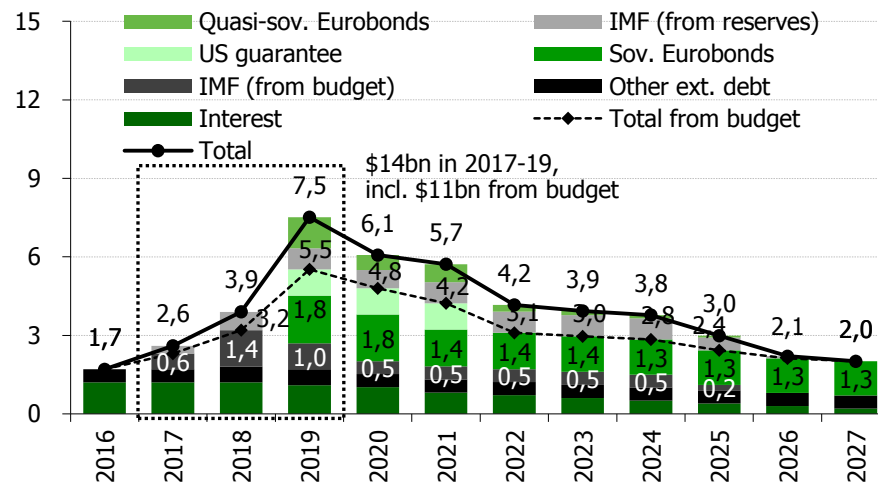


Public Debt and Nominal GDP



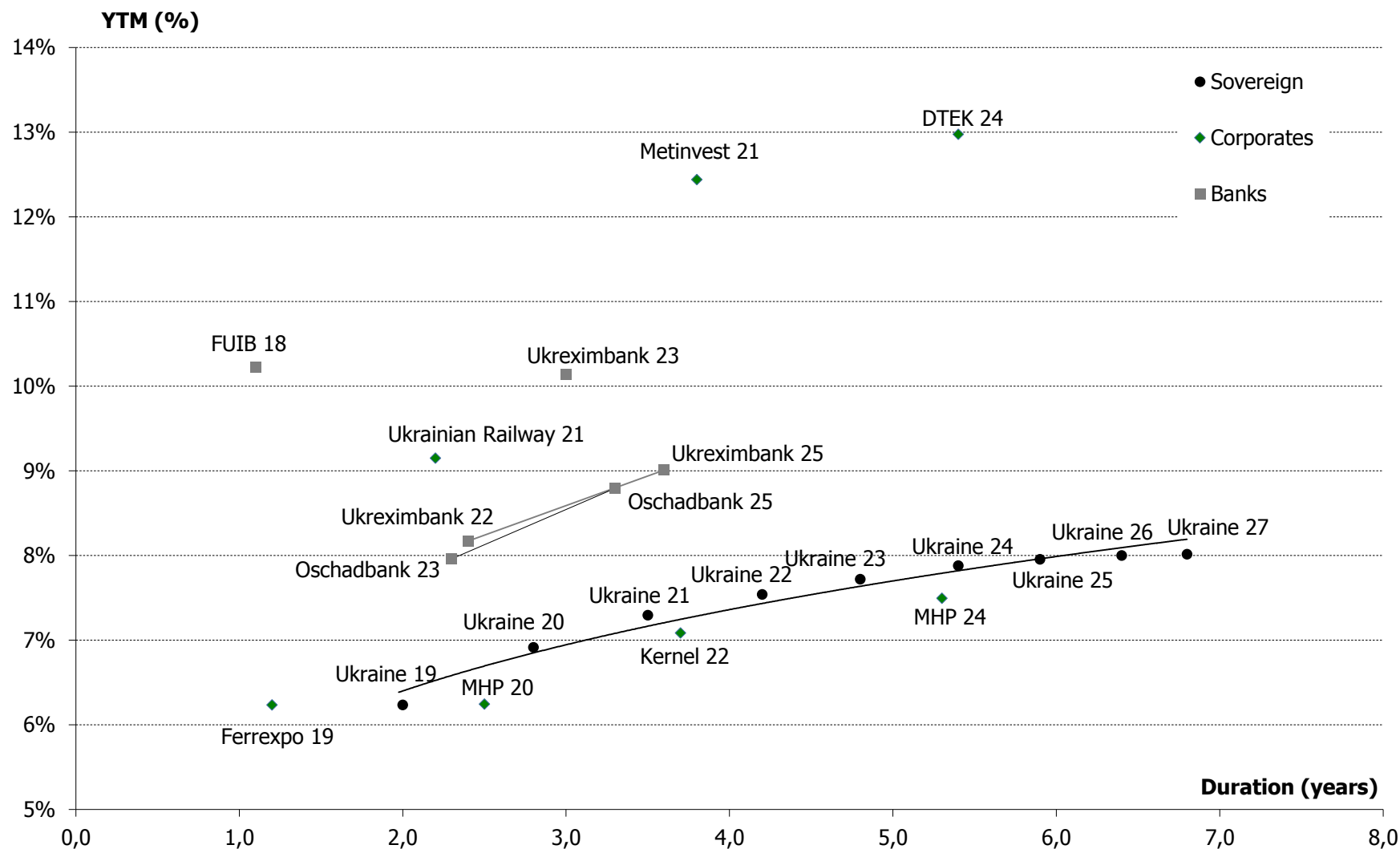
Note: *base case scenario assumes 2.5% GDP growth in 2017, 3.5% in 2018 and 3.0% onwards, 1.0% GDP primary fiscal surplus and stable currency since 2018

External Debt Service Payments* (\$bn)



Note: *based on outstanding liabilities as of end-2016

Ukrainian Eurobond Yield Map



Note: estimated market yields and durations to maturity as of Mar. 10, 2017. Source: Bloomberg

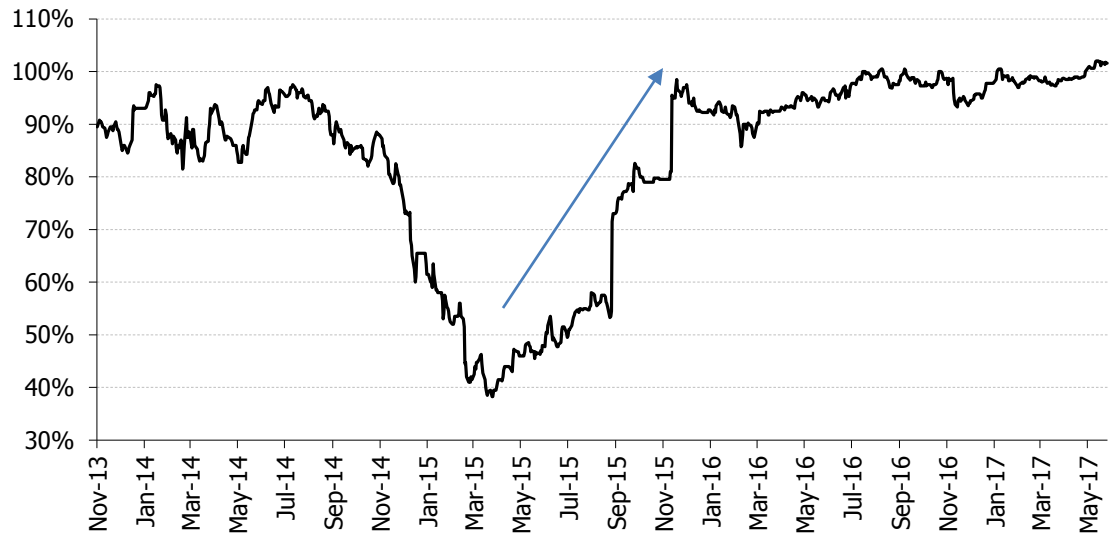
Outstanding Sovereign Eurobonds

Issue	Price ¹⁾ (Bid)	Price ¹⁾ (Ask)	YTM (YTC) ¹⁾ (Bid)	YTM (YTC) ¹⁾ (Ask)	Mod. Dur. ²⁾	Spread ^{2,3)} (bp)	Coupon (%)	Coupon Period	Maturity Date	Vol. (\$m)	Rating Moody's/S&P/ Fitch
Ukraine 19	100.5	101.3	7.52%	7.18%	2.2	617	7.75%	S/A	9/1/2019	1,822	Caa3/B-/B-
Ukraine 20	99.0	100.0	8.09%	7.75%	3.0	642	7.75%	S/A	9/1/2020	1,780	Caa3/B-/B-
Ukraine 21	97.3	98.3	8.50%	8.22%	3.7	640	7.75%	S/A	9/1/2021	1,409	Caa3/B-/B-
Ukraine 22	95.8	96.8	8.74%	8.51%	4.3	665	7.75%	S/A	9/1/2022	1,384	Caa3/B-/B-
Ukraine 23	94.3	95.3	8.94%	8.73%	4.9	684	7.75%	S/A	9/1/2023	1,355	Caa3/B-/B-
Ukraine 24	93.0	94.0	9.06%	8.87%	5.5	648	7.75%	S/A	9/1/2024	1,339	Caa3/B-/B-
Ukraine 25	92.0	93.0	9.13%	8.95%	6.0	655	7.75%	S/A	9/1/2025	1,329	Caa3/B-/B-
Ukraine 26	91.0	92.0	9.19%	9.02%	6.4	662	7.75%	S/A	9/1/2026	1,318	Caa3/B-/B-
Ukraine 27	90.5	91.5	9.18%	9.02%	6.8	661	7.75%	S/A	9/1/2027	1,307	Caa3/B-/B-
GDP Warrants	30.3	31.3	n/a	n/a	n/a	n/a	-	A	-	3,239	-

Notes: 1) estimated market price and YTM as of Mar. 10, 2017; 2) based on bid price; 3) spread over comparable USTs based on bid price. Sources: Bloomberg, Dragon Capital

Sovereign - idea of 2015

Price Dynamics: 5Y Generic Sovereign

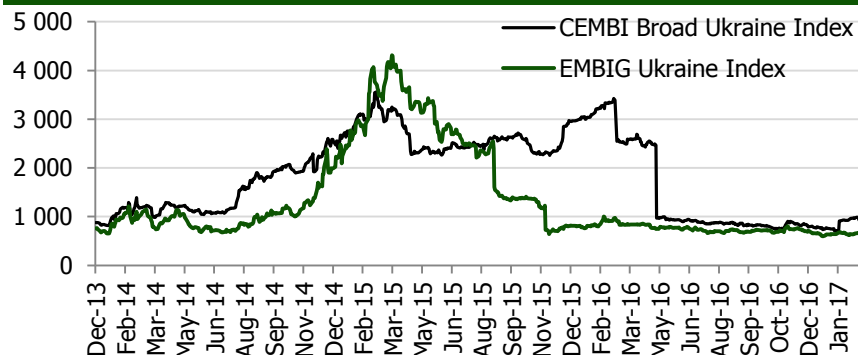


Corporate Eurobonds

Highlights

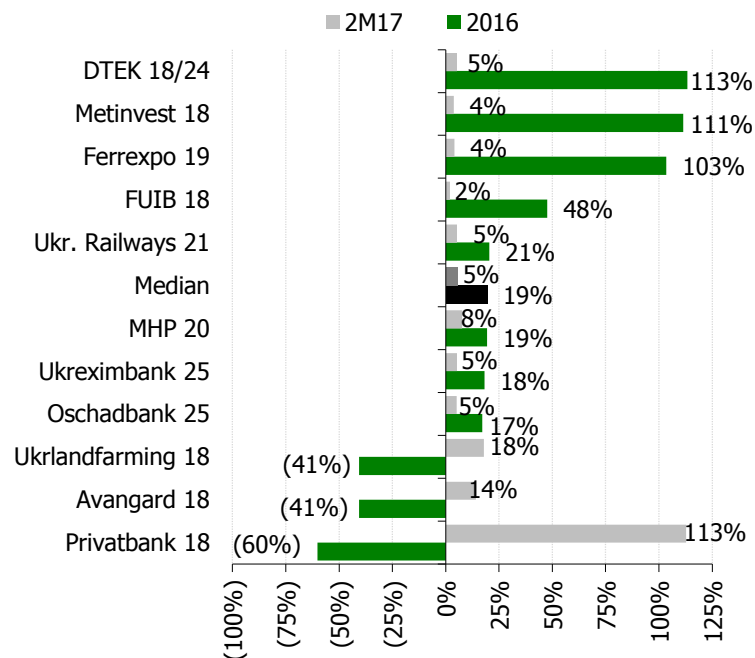
- Ukrainian corporates returned 13% on average in 2016 based on the CEMBI Broad Index, while the EMBIG Ukraine returned 17%. In 2M17, the CEMBI return was -2% and that on EMBIG +1.5%. It should be noted that the CEMBI index included only MHP last year, with DTEK and Kernel added as at end-2M17. We expect Metinvest to return to CEMBI in April 2017, following its Eurobond restructuring completion.
- Some Ukrainian corporates were very volatile in 2016, with commodities-exposed producers DTEK, Metinvest and Ferrexpo returning 100%+ for the year on debt restructuring completion (DTEK and Metinvest) and recovering prices of iron ore (+81% y-o-y in 2016 and +16% YTD in 2M17) and steel (+96% in 2016 and -2% in 2M17). Since February 2017 DTEK has been under pressure from a rail blockade in the east and moves by Russian-backed separatists to seize its assets (Metinvest, facing the same risk, was finalizing its restructuring operation and did not yet trade). Several issues (agricultural ULF and Avangard) lost much of their value on solvency concerns. Privatbank bonds slumped as a result of a bail-in of the bank's non-deposit creditors following its nationalization in December. Quasi-sovereign Ukreximbank, Oschadbank and Ukrainian Railways moved in line with the sovereign. In a notable event in early 2017, Kernel sold \$500m of debut Eurobonds paying an 8.75% coupon.

Ukraine Credit Spreads: Corporate vs. Sovereign (bp)

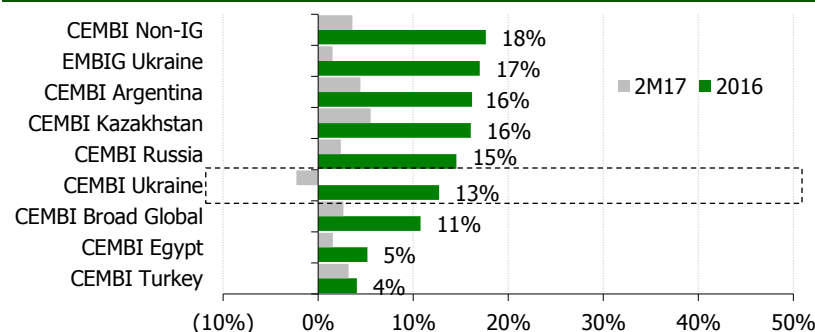


Sources: Companies, JP Morgan, Dragon Capital estimates.

Corporate Eurobond YTD Returns: 2016 vs. 2M17



Annual Performance*



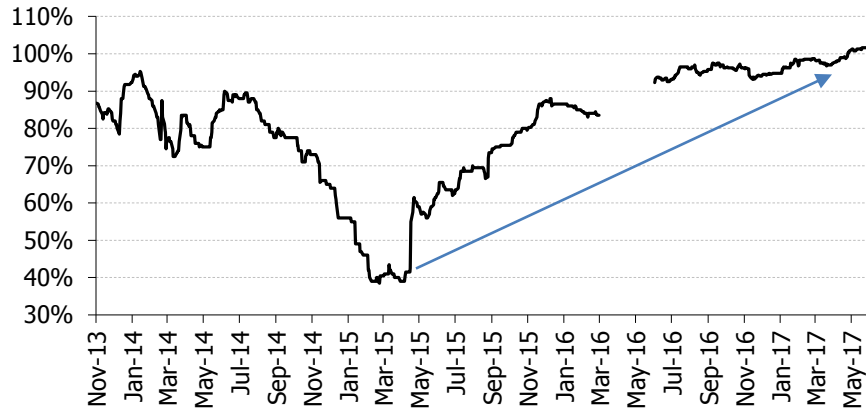
Note: *based on CEMBI Broad index

Outstanding Corporate Eurobonds

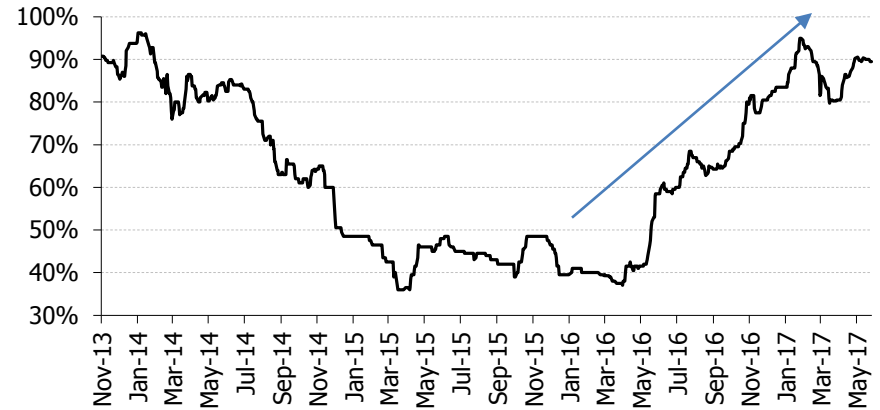
Issue	Price (Bid) ¹⁾	Price (Ask) ¹⁾	YTM (Bid) ¹⁾	YTM (Ask) ¹⁾	Mod. Dur. ²⁾	Spread (bp) ³⁾	Coupon (%)	Coupon Period	Maturity Date	Volume (\$m)	Rating Moody's/S&P/Fitch
Sovereign											
Ukraine 19	102.75	103.50	6.41%	6.06%	2.0	512	7.75%	S/A	9/1/2019	1,822	Caa3/B-/B-
Ukraine 20	102.00	102.75	7.04%	6.79%	2.8	559	7.75%	S/A	9/1/2020	1,780	Caa3/B-/B-
Ukraine 21	101.25	102.00	7.40%	7.19%	3.5	561	7.75%	S/A	9/1/2021	1,409	Caa3/B-/B-
Ukraine 22	100.50	101.25	7.63%	7.45%	4.2	584	7.75%	S/A	9/1/2022	1,384	Caa3/B-/B-
Ukraine 23	99.75	100.50	7.80%	7.64%	4.8	601	7.75%	S/A	9/1/2023	1,355	Caa3/B-/B-
Ukraine 24	98.88	99.62	7.95%	7.81%	5.4	571	7.75%	S/A	9/1/2024	1,339	Caa3/B-/B-
Ukraine 25	98.38	99.12	8.02%	7.89%	5.9	578	7.75%	S/A	9/1/2025	1,329	Caa3/B-/B-
Ukraine 26	98.00	98.75	8.06%	7.94%	6.4	581	7.75%	S/A	9/1/2026	1,318	Caa3/B-/B-
Ukraine 27	97.75	98.50	8.07%	7.96%	6.8	583	7.75%	S/A	9/1/2027	1,307	Caa3/B-/B-
GDP Warrants	36.50	37.25	n/a	n/a	n/a	n/a	-	A	-	3,239	-
Corporates											
Avangard 18	21.00	24.00	nm	nm	nm	nm	10.00%	S/A	10/29/2018	200	-/-/WD
DTEK 24	89.00	90.00	13.08%	12.87%	5.4	1,084	10.75%	Q	12/31/2024	1,275	-/-/WD
Ferrexpo 19	104.75	105.75	6.61%	5.86%	1.2	532	10.375%	S/A	4/7/2019	346	Caa2/B-/B-
Interpipe 17	23.00	26.00	nm	nm	nm	nm	10.25%	S/A	8/2/2017	200	-/NR/WD
Kernel 22	106.00	107.00	7.21%	6.96%	3.7	542	8.750%	S/A	1/31/2022	500	-/B/B+
Metinvest 21	92.50	93.50	12.58%	12.30%	3.8	1,079	10.79%	Q	12/31/2021	1,197	-/-/B
MHP 20	104.62	105.62	6.43%	6.06%	2.5	498	8.25%	S/A	4/2/2020	750	-/B-/B-
MHP 24	101.12	101.62	7.54%	7.45%	5.3	549	7.75%	S/A	5/10/2024	500	-/B-/B-
Mriya 16	4.00	8.00	nm	nm	nm	nm	10.95%	S/A	3/30/2016	250	-/NR/WD
Mriya 18	4.00	8.00	nm	nm	nm	nm	9.45%	S/A	4/19/2018	400	-/NR/WD
Ukrlandfarming 18	21.00	24.00	nm	nm	nm	nm	10.875%	S/A	3/26/2018	500	-/NR/WD
Ukrainian Railway 21	101.00	102.25	9.42%	8.88%	2.2	797	9.88%	S/A	9/15/2021	500	-/CCC+/CCC
Banks											
FUIB 18	100.00	102.00	11.14%	9.30%	1.1	985	11.00%	Q	12/31/2018	207.5	WR/-/NR
Oschadbank 23	102.75	103.75	8.17%	7.75%	2.3	672	9.375%	S/A	3/10/2023	700	Caa3/-/B-
Oschadbank 25	102.25	103.25	8.94%	8.65%	3.3	716	9.625%	S/A	3/20/2025	500	Caa3/-/B-
Privatbank 18	18.00	22.00	nm	nm	nm	nm	10.25%	S/A	1/23/2018	200	WR/-/WD
Privatbank 18	18.00	22.00	nm	nm	nm	nm	10.875%	S/A	2/28/2018	175	WR/-/WD
Privatbank 21	5.00	10.00	nm	nm	nm	nm	11.00%	S/A	2/9/2021	220	-/-/-
Ukreximbank 22	103.00	104.00	8.37%	7.97%	2.4	692	9.625%	S/A	4/27/2022	750	Caa3/-/B-
Ukreximbank 23	94.00	96.00	10.49%	9.78%	0.2	840	8.34%	S/A	2/9/2023	125	Ca/-/C
Ukreximbank 25	102.25	103.25	9.14%	8.88%	3.6	736	9.75%	S/A	1/22/2025	600	Caa3/-/B-

Corporates - idea of 2015- 2016

Price Dynamics: Ukrainian Railways



Price Dynamics: DTEK



GDP Warrants: terms

Highlights

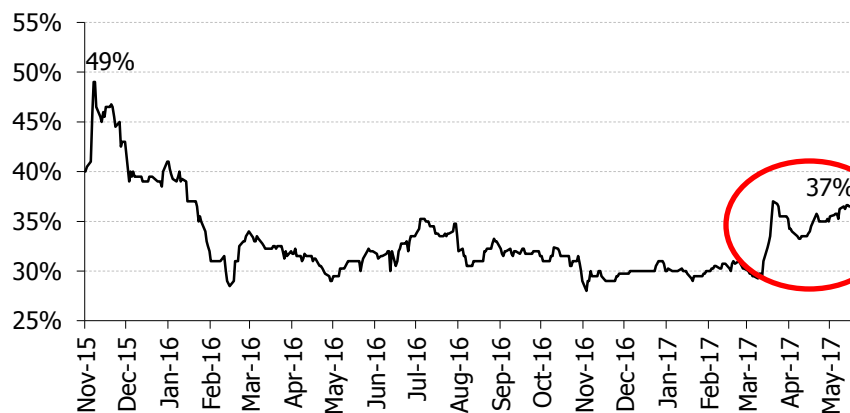
- ▶ VRI payments will be made annually on May 31, starting in 2021 and ending in 2040 (i.e. maximum of 20 payments), provided that two conditions have been met: (i) real GDP in the reference year (t) is higher than 3.0% y-o-y (ii) reference-year nominal GDP converted into U.S dollars at the reference-year annual average exchange rate exceeds \$125.4bn According to the IMF's forecast for Ukraine published in August 2015, the country's nominal GDP will surpass the above threshold and reach \$126.0bn in 2019.
- ▶ Payments on GDP warrants will be calculated as follows: $\text{Payment} = \text{Specified Percentage} * \text{Reference Value}$, where a) Specified Percentage = $\frac{\text{Aggregate Notional Value of VRIs Issued}}{\text{Aggregate Notional Value Permitted to be Issued}}$. Currently, the aggregate notional amount permitted to be issued equals \$3.6bn, or 20% of \$18bn, the value of Eurobonds Ukraine approved for restructuring including a \$3.0bn bond held by Russia. The aggregate notional amount of issued VRIs equals \$2.916bn, implying a Specified Percentage of $\frac{\$2.916\text{bn}}{\$3.6\text{bn}}=81.0\%$. As the remaining holders of old Eurobonds submit their exchange instructions, the numerator above will approach \$3.0bn and the specified percentage will rise to 83.3%. This will not affect payouts on each separate VRI, as the resulting increased aggregate Payment will be allocated among a higher number of issued securities. However, according to the Trust Deed, Ukraine may issue up to \$0.3bn of additional VRIs in exchange for a nominal hair-cut on quasi-sovereign and guaranteed debt subject to restructuring, which will slightly dilute payments on each warrant. b) Reference Value may equal:
 - In case reference-year real GDP (t) is $>3.0\%$ and $\leq 4.0\%$: $15\% * \text{nominal GDP (t-1)} * (1+\text{GDP deflator (t)}) * (\text{real GDP growth (t)} - 3.0\%)$
 - In case reference-year real GDP (t) is $>4.0\%$: $15\% * \text{nominal GDP (t-1)} * (1+\text{GDP deflator (t)}) * (1.0\%) + 40\% * \text{nominal GDP (t-1)} * (1+\text{GDP deflator (t)}) * (\text{real GDP growth (t)} - 4.0\%)$
- Reference Value shall not exceed 1.0% of GDP for the reference years 2019-2023.
- Reference Value will be calculated in local currency and converted into U.S. dollars based on the average exchange rate for 60 days prior to April 30 of the payment year (i.e. almost year and a half post-reference year).

GDP Warrants

Highlights

- ▶ As part of its 2015 sovereign Eurobond restructuring, Ukraine issued GDP warrants with a notional amount of \$3.1bn. Warrant holders, while not being entitled to the repayment of principal, will receive payments tied to future dynamics of Ukrainian GDP over 2019-2038.
- ▶ Payouts on warrants are critically dependent on exchange rate dynamics and volatility of real GDP, with a stronger currency and higher GDP volatility leading to heftier payouts.
- ▶ Before the first payment is made in 2021 or later, warrant holders may profit only from price moves. Warrant quotes hit 49% shortly after issuance but slid to 30% in early 2016 and have since ranged from 30-35%.
- ▶ Using Monte-Carlo simulations and peer analysis (assuming Ukraine will be able to replicate historical development of peer economies), and applying a 15% discount, we estimate the fair value of warrants ranges between 42% and 48%.

Price Dynamics (% of notional amount)

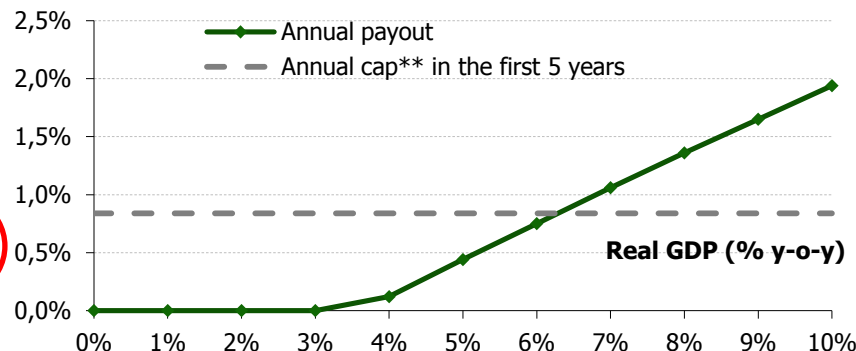


Warrants Valuation

	Monte-Carlo Simulations		Peer analysis*
	Break-through Scenario	Muddle through Scenario	
NPV (% of notional)	48%	43%	42%**
Total Payout (\$bn)	12.1	11.2	9.1**
Real GDP, annual avg.	3.3%	1.5%	--
Real GDP, volatility	3.0%	6.7%	--
Inflation, annual avg.	5.0%	5.0%	--
Inflation, volatility	3.0%	3.0%	--
Real apprec. (+)/ deval.(-) in 20Y	10%	(13%)	--

Note: *assumes that in 2019-2038 Ukraine will replicate historical dynamics of real GDP, inflation and exchange rate of a selected set of peer economies; **median for peer economies; NPV at 15% discount

Payouts on GDP Warrants* (% of GDP)



Notes: *assuming nominal GDP exceeds \$125.4bn min threshold and no exchange rate moves between reference year and payment year; **nominal 1.0% GDP cap adjusted for the share of issued GDP warrants (84% of maximum permitted as of Mar. 14, 2016)

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