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Greek Banks | Europe

Balance Sheet Cleanup Underappreciated

Progress on NPE securitisation shows the transformative power it offers for Greek banks' balance sheet cleanup. We see risks on new NPE inflow post-moratoria as likely manageable, and view Greek banks as offering attractive risk-rewards at current valuation. Alpha & NBG our preferred plays.

A deep-dive into balance sheet cleanup opportunities. With Greek banks still exhibiting highest NPE (non-performing exposure) ratios in Europe, we focus on balance sheet cleanup opportunities and look at Greek banks' ability to reduce NPEs. We find that reaching NPE levels of 5% of loans is possible though we expect this to take several years and at significant cost. We use NPE securitisation and sales as our key modeling tools and, in our analysis, we use available cushion of excess capital and loan loss reserves plus build-up of pre-provisioning profit to offset potential losses stemming from balance sheet cleanup efforts. The Hercules asset protection scheme (HAPS) should help to deal with roughly half of current NPE stock, in our view, and further cleanup could take a number of forms: we model it through only securitisation and NPE sales.

NPE reduction opportunities underappreciated by the market, particularly for **NBG** and Alpha. Despite COVID headwinds, Eurobank successfully completed its €7.5bn Cairo transaction in late 2Q20, bringing its NPE ratio to 15% (vs 37% at YE18). This underscores the power of NPE securitisation and the way HAPS can assist banks, giving us confidence the other banks can follow suit. The market seems to give credit for asset quality improvement to Eurobank (which trades at 0.3x 2020e P/B) but much less so to NBG (0.2x), which we believe could decrease its NPE ratio to 16% by YE21 from 30% currently. Alpha and Piraeus have the highest NPE ratios (44% and 48%, respectively) and trade at 0.1x P/B, but we believe Alpha has a much stronger capital cushion to allow for NPE reduction acceleration.

The market prices in a severe impact on asset quality - a key debate, in our view.

Loans under moratoria represent 15-24% of performing loans at Greek banks and should a guarter of these turn bad after moratoria expire at YE20, NPE ratios would rise 2.5-4%, which should result in more of a slowdown to balance sheet repair than a new full-blown crisis. While in our base case we believe that postmoratoria NPE formation is likely to be offset by Greek economic recovery, we also believe that if the Greek economy does not improve by mid-2021, the government could extend support programs such as the Gefyra subsidy program for primary residence mortgages. Moreover, we believe that with significant EU recovery fund allocation, the likelihood of bear case scenarios is lessened and recapitalisation risks are more limited vs prior Greek banks crises.

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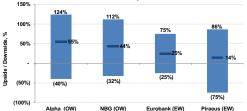
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Attractive

Exhibit 1: We Initiate coverage at Overweight for Alpha & NBG and Equal-weight Eurobank & Piraeus: with high NPE ratios, Greek bank remain high-risk investments, but we believe risk-reward looks attractive and recapitalisation risks are much lower vs prior Greek crises, with only Piraeus looking a potential share count risk to us due to its weakest capital cushion



Source: Morgan Stanley Research estimates

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Executive summary

Initiating on the four Greek banks: risk-rewards looks attractive. Greek banks' shares are down 57-69% YtD and market concerns are understandable as the Greek economy is set for a 10.8% contraction in 2020 according to Morgan Stanley economists, which could derail banks' cleanup efforts. For now, moratoria help curtail new NPE formation but once they end in 2021, asset quality impact could be severe: this is the key uncertainty. However, we see many positive mitigating factors, with Greece being a recipient of significant support from the EU recovery fund, which we believe offers protection against more adverse scenarios. Moreover, NPE securitisation deals appear to have only been delayed by a few months, as Eurobank already completed its large Cairo transaction in late 2Q20. This gives us confidence that the pandemic impact will be manageable and Greek banks can continue on their way to clean balance sheets (with NPE ratios of 5% or below). We estimate the process will take up to five years, depending on the bank, and at the end of the road, Greek banks can achieve 8-9% RoTE. Trading currently at 0.13x and 0.21x 2020e P/B respectively, Alpha Bank (Overweight, PT €0.90) and NBG (Overweight, PT €1.70) offer the best combination of risk and reward, in our view. Eurobank (Equal-weight, PT €0.50) has shown the most progress in NPE reduction but trades at a much higher O.3x P/B. Piraeus Bank (Equal-weight, PT €1.35) has both the highest NPE ratio currently (leading to potentially the longest path to cleanup) and weakest cushion against potential adversity.

Key questions and our take:

- How bad will the eventual COVID impact be? In our base case, we believe that post-moratoria NPE formation in 2021 is likely to be offset by Greek economic recovery and potentially further government support measures that would help the banks restructure the majority of troubled loans (with an eye on future workout). We believe the NPE inflow is likely to be gradual and banks' capital cushions together with pre-provisioning income (PPI) generation should help offset higher provisioning.
- What happens with NPE reduction plans and how long can it take to clean up the balance sheets? The completion of Eurobank's hive-down process and closure of its Cairo transaction in 2Q20 shows that, despite the COVID impact on the economy, securitisation deals are still going ahead. We believe that the four systemic banks can execute on their pre-pandemic cleanup plans with a several quarters' delay.
- What will Greek banks look like post-cleanup? Greek banks are relying on net interest income to a larger degree than most other EU banks, and we believe they should be able to sustain wider NIMs post their cleanup efforts. Moreover, even with large employee optimisation schemes realised, operating efficiency still has room for improvement from further digitisation. Ultimately, we believe Greek banks should be able to sustain high-single digit RoE in the mid-to-long term.

Key tools for our analysis. We rely on NPE securitisation as our key tool: both planned transactions and beyond (we simulate further securitisation deals over 2021-23). We use all the available cushion of 'excess' capital and loan loss reserves plus build-up of pre-provisioning profitability; however, we operate with assumptions of slower cleanup in each year vs maximum available (as deals have been known to be delayed on many occasions). Once we arrive at NPEs below 5%, we can speak of sustained profitability and we use our proprietary analysis of RoE drivers to explore how profitable the Greek banks can be post 'the big cleanup'.

NBG and Alpha are our preferred plays: While Eurobank is the closest to full cleanup, it is also the most expensive at 0.3x 2020e P/B. At the same time, NBG looks closer to Eurobank than the market may realise (we forecast NBG could lower its NPE ratio to 17% by YE21) but is trading at 50% discount (0.2x P/B). Alpha Bank (0.1x P/B) offers potentially more upside but comes with more risks as its path to cleaner balance sheet will likely be longer. Piraeus trades at same multiples (0.1x P/B) but we believe it comes with both the longest path to cleanup in our base case and highest risks in more bearish scenarios.

Where could we be wrong? Key risks to our forecasts and positive views stem from potentially more significant weakness in the Greek economy and softening of the NPE market in Greece, which would result in both higher new NPE inflows and slower progress on the cleanup. However, we believe that recapitalisation risks are more limited vs prior Greek bank crises, with only Piraeus looking a potential share count risk due to highest NPE ratio combined with weakest capital buffer.

Order of preference

We prefer NBG to Eurobank among banks closer to balance sheet cleanup goals on valuation grounds. We also prefer Alpha Bank to Piraeus among the banks with highest NPE ratios due to better transformation potential i.e. ability to take the losses necessary for dramatic NPE reduction.

Overweight Alpha Bank and NBG

Alpha Bank trades in line with Piraeus at 0.1x PTBV with both exhibiting higher NPE ratio vs two other systemic banks but Alpha has more room for cleanup than Piraeus and the Galaxy transaction could accelerate it in late 2020 or early 2021: we believe it could cut NPE ratio to 27% by YE21 from current 44%.

NBG boasts the second-lowest NPE ratio and, in our view, will be second-quickest to clean up the balance sheet after Eurobank: a couple of securitisation deals (already earmarked) and it could quickly catch up on fundamentals thus on valuation too, in our view. We model NBG could cut NPE ratio to 17% by YE21 from current 30%.

Equal-weight Eurobank and Piraeus



Eurobank is the most expensive but we expect it to clean up the balance sheet the quickest; target multiple of 0.3x PTBV implies being close to fairly valued.

Piraeus is the cheapest stock at 0.1x PTBV but the largest bad debt burden (we estimate net NPEs will still exceed 200% of tangible equity in 2021e) justifies little upside even from these levels, we believe.

Exhibit 2: Price target summary (EUR)

	Stock rating	Current price	Price Target Bear	Up / (Down)	Price Target	Up / (Down)	Price Target Bull	Up / (Down)
Alpha Bank	O/W	0.58	0.35	-39.7%	0.90	55.2%	1.30	124.1%
Eurobank	E/W	0.40	0.30	-25.0%	0.50	25.0%	0.70	75.0%
NBG	O/W	1.18	0.80	-32.2%	1.70	44.1%	2.50	111.9%
Piraeus	E/W	1.18	0.30	-74.6%	1.35	14.4%	2.20	86.4%
Source: Thomson Reuters	, Morgan Stanley Researd	ch estimates						

Exhibit 3: Greek banks' asset quality metrics, 2020-2022e

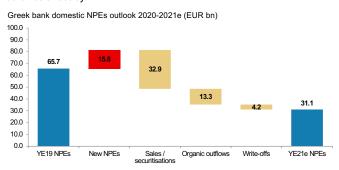
		NPE ratio		NF	NPE coverage			et NPE / T	В		Texas rati	0		CET1	
	2020e	2021e	2022e	2020e	2021e	2022e	2020e	2021e	2022e	2020	2021e	2022e	2020e	2021e	2022e
Alpha Bank	26.4%	27.1%	14.3%	45.5%	42.8%	47.9%	92.2%	95.0%	44.2%	95.6%	97.1%	60.3%	15.1%	16.1%	15.6%
Eurobank	16.3%	13.8%	7.5%	58.5%	53.9%	48.9%	43.9%	40.3%	21.3%	65.4%	59.4%	34.6%	13.6%	13.5%	14.7%
NBG	28.6%	16.6%	9.4%	56.4%	53.4%	56.6%	81.0%	45.5%	21.3%	90.7%	64.2%	38.4%	14.6%	14.5%	15.5%
Piraeus	45.7%	39.9%	26.8%	45.8%	45.8%	46.9%	217.7%	203.2%	123.5%	141.59	6 138.0%	111.2%	13.8%	12.8%	13.0%
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	Gross	NPEs, E		Gro	oss NPEs	• •	Provi	sions, El		Ne	t NPEs, EU	R bn	Tangibi	e equity,	EUR bn
	2020e	2021e	2022e	2020e	2021e	2022e	2020e	2021e	20226	2020	2021e	20226	2020e	2021e	2022e

	Gross	NPES, E	UR bn	Gross NPES y/y			Provisions, EUR bri			Net NPES, EUR DI			Tangible equity, EUR bit		
	2020e	2021e	2022e	2020e	2021e	2022e	2020e	2021e	2022e	2020e	2021e	2022e	2020e	2021e	2022e
Alpha Bank	10.4	10.7	5.0	-52.4%	2.8%	-52.9%	4.7	4.6	2.4	5.7	6.1	2.6	6.1	6.4	5.9
Eurobank	5.9	4.8	2.5	-54.8%	-18.7%	-47.5%	3.4	2.6	1.2	2.4	2.2	1.3	5.5	5.5	6.0
NBG	10.2	5.0	2.7	-6.9%	-50.4%	-45.9%	5.7	2.7	1.5	4.4	2.4	1.2	5.5	5.2	5.6
Piraeus	22.1	17.2	10.1	-9.8%	-22.1%	-41.5%	10.1	7.9	4.7	12.0	9.3	5.3	5.5	4.6	4.3

Source: Morgan Stanley Research estimates

Greek banks in six charts

Exhibit 4: We expect Greek banks to remove €34.5bn of NPEs off balance sheet by YE21



Source: Banks' data, Morgan Stanley Research estimates

Exhibit 5: Potential NPE formation at Greek banks in 2021e likely to be manageable



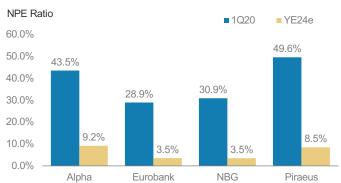
Source: Morgan Stanley Research estimates

Exhibit 6: We expect Greek bank NPEs to decline by 88% over the next 5 years to reach €8.2bn by 2024e...



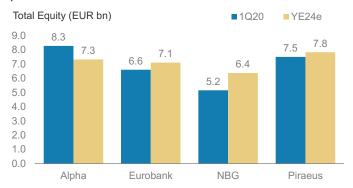
Source: Banks' data, Morgan Stanley Research estimates (e)

Exhibit 7: ...with NPE ratios declining by ~25-41ppts across banks...



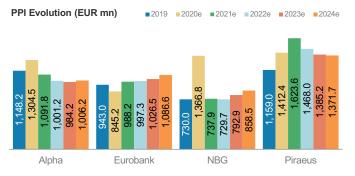
Source: Banks' data, Morgan Stanley Research estimates (e)

Exhibit 8: ...with total equity changing by \sim -18% to +24% in the process



Source: Banks' data, Morgan Stanley Research estimates (e)

Exhibit 9: PPI (pre-provisioning income) power should remain solid but would be hard to expand with balance sheet deleveraging



NPE reduction: the key focus and the key debate

With NPE ratios ranging 17-48% in 2Q20, balance sheet cleanup remains the paramount issue for the Greek banks as only reducing those levels drastically would allow market attention to turn to sustainable profitability.

Recent progress has been significant, particularly at Eurobank, but for others most of the heavy lifting is still ahead. The Hercules asset protection scheme (HAPS) and revival of the NPE market should help. COVID and associated lockdowns have so far been only mild obstacles for balance sheet cleanup: banks have been delayed by a couple of quarters but continue with NPE securitisation and sales efforts. Moreover, property auctions have just resumed after a six-month pause. Yet, COVID's impact on the Greek economy (and tourism in particular) offers potential for significant new NPE flows – how big could they be?

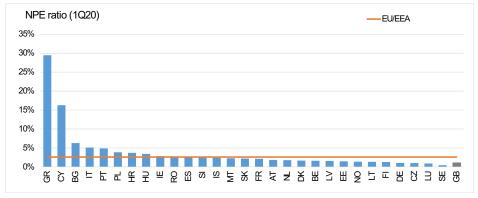
In this section we look at: 1) banks' current securitisation pipeline, 2) potential NPE inflows post moratoria, 3) scope for further NPE reductions based on capital and LLRs cushions and PPI power. We look at the latter solely from the perspective of potentially offsetting losses that would be associated with further cleanup. We use securitisation as our key modeling tool that shows potential for cleanup, although in practice this will most likely turn out a combination of securitisation, collateral liquidation and NPE sales.

We find that under our base case scenario (with significant but manageable NPE inflows in 2021) banks are capable of significantly improving their NPE ratios over the next five years: we find that Alpha, Eurobank and NBG all have enough firepower to drive NPE ratios below 5%. Piraeus is a clear laggard, with the longest path to cleaner balance sheet, in our view.

Scope of the problem

Greek banks - despite some improvement over the last few years - still exhibit the highest NPE (non-performing exposure) ratios among European banks. Asset quality issues remain pressing for banks due to significant capital locked up in non-performing assets and remain the key focus of investors: it is hard to discuss sustainable RoE prospects with such large (up to 48%) shares of loan portfolios being problematic.

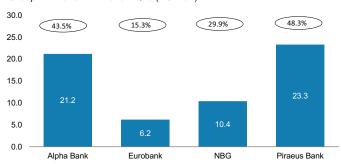
Exhibit 10: Greek banks exhibit the highest NPE ratio (29%) among European banks



Source: EBA risk dashboard, Morgan Stanley Research

Exhibit 11: Eurobank and NBG have the lowest in class NPE ratios on group level \dots

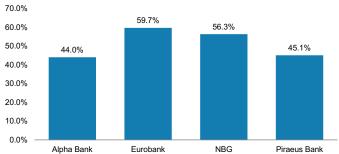
Group NPE and NPE ratio 2Q20 (EUR bn)



Source: Company data, Morgan Stanley Research

Exhibit 12: ... as well as highest NPE coverage levels

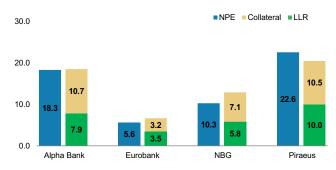
NPE cash coverage 2Q20



Source: Company data, Morgan Stanley Research

Exhibit 13: NBG is best in class in terms of total (cash + collateral) coverage ...

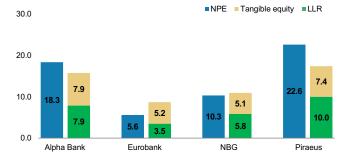
Greek NPE, LLR & collateral 2Q20 (EUR bn)



Source: Company data, Morgan Stanley Research

 $\textbf{Exhibit 14:} \ \dots \text{ while Eurobank has the largest total cushion (tangible equity + reserves) against NPEs$

Greek NPE, Tangible equity & LLR 2Q20 (EUR bn)



Source: Company data, Morgan Stanley Research

Recent progress in NPE reduction

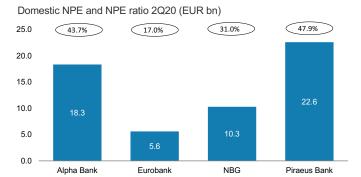
Exhibit 15: Greek banks have driven combined domestic NPE ratio from 50% to 37% since YE17...

Combined 4 banks domestic NPE evolution (EUR bn)



Source: Company data, Morgan Stanley Research

Exhibit 16: ... with Eurobank's Greek-only NPE ratio of 17% best in class



Source: Company data, Morgan Stanley Research

Banks' plans and targets

Alpha. Prior to the pandemic, Alpha Bank was targeting an NPE ratio of less than 10% by YE22 from 45% at YE19, on the back of negative organic NPE flows, Galaxy securitisation project worth €10bn (with planned completion in 2020), and additional disposal of Neptune portfolio worth €1.1bn by 3Q20. Latest update: as of end-August, Alpha has reported significant progress in the Galaxy transaction, expecting to close it by end-year. The bank also has better visibility on the capital effect, anticipating total CAR to decline 250-280bp as a result of the transaction. Closing on Galaxy alone would bring Alpha's NPE ratio below 25%.

Eurobank. Before the COVID-induced crisis, Eurobank was planning to cut its NPE stock from €13bn at YE19 to €1.7bn by YE22. This would mean a reduction in NPE ratio from 29% to 5%. A key part of the NPE reduction plan is the Cairo securitisation project. The transaction involves €7bn NPE sales and was successfully closed in early June 2020. The impact of the sale will be reflected in 2Q20 results. After Cairo, Eurobank plans further reductions by €4.3bn over 2020-2022 including €1.7bn securitisation and €0.4bn sales, as well as organic reduction.

Completion of Cairo and Europe transactions drove Eurobank's NPE ratio down to 15.6%, and NPE coverage to around 60%. The Cairo transaction's final structure was €2.4bn senior notes (guaranteed by Hellenic Asset Protection Scheme, or HAPS), €1.5bn mezzanine notes, and €3.6bn junior notes. Eurobank sold 20% of mezzanine notes in the Cairo transaction to doValue, retained 100% of senior notes and 5% of junior and mezzanine notes. The Group plans to distribute the remaining mezzanine and junior notes to shareholders in 3Q20. Along with NPE sales Eurobank also sold 80% of its NPL servicing subsidiary called Eurobank Financial Planning Services (FPS). After the sale, Eurobank signed a 14-year servicing agreement with FPS. Eurobank's capitalisation was affected to the tune of -340 bps: -390 from Cairo, +75 from Europe, and -25 bps in transactions costs. Eurobank will reflect the P&L impact of the transactions in 2Q20 results.

NBG. NBG has relied on NPE sales as a key non-organic reduction way for the balance sheet cleanup, having sold a total of €5.7bn NPEs by June 2020. Moreover, NBG is planning to close on two other sales (outside Greece) totalling €0.5bn between Project

Marina (Cyprus) and Project Danube (Romania). After that, though, NBG is planning to turn to securitisation. Before the COVID-induced crisis, NBG was targeting an NPE reduction from €10.6bn in YE19 to €1.7bn by YE22, with 50% of the reduction planned to be organic. This translates to a target NPE ratio of c. 5%. NBG was also targeting Stage 3 coverage ratio of more than 50% by YE22. Currently NBG is planning to securitise more than €6bn NPEs (2/3 of the current stock) after market conditions recover. The bank expects to achieve it in one single transaction that would close in 1H21.

Piraeus. In early February, Piraeus announced its strategy update including a revised balance sheet cleanup plan which at the time was not accounting for the pandemic which came to Europe later. According to the February NPE reduction plan, Piraeus was aiming to reduce its NPEs from €24bn at YE19 to €13bn by YE20, €10bn by YE21 and below €8bn by YE22. Despite a budgeted significant NPE reduction in nominal terms (by at least 67%), end-22 NPE ratio was still projected to be elevated at around 15% according to Piraeus. The NPE reduction plan budgeted an inflow of €4bn new NPEs over 2020-2022 with larger curings and other organic reduction driving outflows of €13bn and sales driving an €8bn (c.€2bn Phoenix and €5bn Vega) reduction in NPEs.

In its pre-COVID strategy update, Piraeus announced it was aiming to achieve a pre-tax RoA of 1% and RoTE of 10% in 2022, and surpass these targets from 2023. To achieve this target, the bank has budgeted NIM of around 2.1% (-30bps vs 9M19 levels), net F&C yield of around 70 bps over assets (vs 50 bps in 9M19), opex/average assets ratio of around 1.3% by 2022 (vs 1.7% in 9M19) as a result of improved cost efficiency, and normalised CoR of around 0.6% over net loans by 2022. The resulting target PPI yield is about 1.6%.

Key NPE reduction tools

In our analysis (our base case) we assume banks use securitisations to lower NPEs without breaching their minimum IFRS9 Phased-in CET1 requirements in 2020 (12% at Alpha, Eurobank and NBG; 12.25% at Piraeus). We utilise banks' LLRs and above-requirements capital as a cushion against securitisation-associated losses. Importantly, we stretch our exercise over the forecasting period on 2020-2024e thus earnings for the period are also used to offset these securitisation losses. Moreover, as these transactions take significant time and so far have been delayed, we do not use all the available cushion in each period, instead modelling a more gradual securitisation process to reflect that. Our key assumptions are:

- Senior tranche is 55% of the SPV assets, in line with the just completed Eurobank's Cairo transaction.
- Coupon on the senior note 2%, in line with bank commentary.
- Standardised banks risk-weight net NPE at 100%.
- IRB banks risk-weight gross NPE at 30%.
- Senior tranche is risk-weighted at zero due to the state guarantee under HAPS.
- in our base case 95% 'mezzanine'/junior is distributed to third parties and 5% of the



'mezzanine'/junior is retained by the bank (as required by the regulator) and risk-weighted at 1,250% of fair value.

- Coverage on remaining gross NPEs post transaction is maintained over 40% taking into account recent increases as well.
- Underlying assets that are securitised are NPEs with collateral coverage at average levels.
- Investors in the 'mezzanine'/junior tranche will demand a 20% levered IRR, implying a price of 20.7c.

Power of securitization: Eurobank example

Eurobank's Cairo transaction, which closed in June, provides a prime example of the power of securitisation and what it can do to transform the balance sheet:

- Totalling €7.5bn in gross NPE value, Cairo took Eurobank's NPE ratio from 29% in 1Q20 to 15% in 2Q20.
- Texas ratio improved from 116% in 1Q20 to 69% in 2Q20.
- Eurobank did book a €1.2bn loss on closing the transaction, but RWA relief coming from state guarantee on senior notes (in line with the Hercules asset protection scheme) has helped mitigate capital impact.

How effective a tool might securitisations be in Greece? Assuming banks can avoid triggering a capital raise in the event of losses (which the hive-down processes seem to take care of), the minimum CET1 requirement would become the primary factor limiting accelerated progress cleaning up bank balance sheets. To appreciate the full effect of securitisations we consider how the numerator (CET1 capital) and the denominator (risk-weighted assets) are influenced by these transactions: losses to equity are partially offset by zero risk weight on seniors, giving some RWA relief. To reiterate, Hercules provides a government guarantee of the senior tranche meaning senior tranche gets risk-weighting of 0% (the same as a Greek government bond), which would allow for more aggressive NPE reduction through securitisation as this would offset part of the hit to equity when losses are realised.

COVID-19 tailwinds: NPE formation in 2021-2022 could be significant

Our economics team forecasts a 10.8% decline in Greek GDP in 2020 followed by a 5.3% rebound in 2021. The prospects of the Greek economy greatly depend on the timeline for a COVID-19 vaccine. As the total contribution of tourism can represents c.20% of GDP, the maintenance of some sort of social distancing/travel restrictions until a medical solution is found poses challenges for the recovery, and will be reflected in higher slack for longer.

The Greek government introduced ample fiscal support including loan guarantees schemes and subsidy / loan moratoria programs. For now, moratoria help withhold new NPE formation but once they end in 2021, the impact on asset quality could be severe and as such represents the key uncertainty. However, we see many positive factors

which could mitigate that, with Greece being a recipient of significant support from the EU recovery fund, which we believe offers protection against more adverse scenarios.

Moreover, when NPE inflows start, it should be a gradual increase. The scope is a big unknown, with some banks quoted earlier in the year as anticipating up to €12bn NPE inflow across the sector. Looking at current loans under moratoria, which represent 15-27% of performing loans at the four systemic banks, as the primary source for potential new NPEs, and assuming a quarter of them turn sour in 2021 (as moratoria expire at YE2O), we expect c. €6bn of NPE formation in 2020 in our 'mitigated' baseline forecast scenario, and up to €11bn in the bear case.

Our forecasts - slower than planned but still progressing

Our forecasts are based on available room for securitisations and NPE sales as determined by:

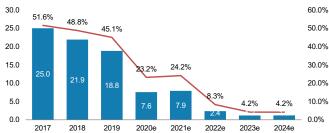
- Capital and LLR cushions (important to consider them together), and
- our PPI (pre-provisioning income) forecasts as PPI generation could help offset some of the cleanup-associated losses

Greek bank domestic NPEs outlook 2020-2021e (EUR bn) 100.0 90.0 0.08 65.7 70.0 32.9 60.0 50.0 13.3 40.0 31.1 4.2 30.0 20.0 10.0 YE19 NPEs New NPEs Sales / Organic outflows Write-offs YE21e NPEs securitisations

Exhibit 17: Domestic NPE outlook for 2020-2021

Exhibit 18: We believe that Alpha Bank could cut its domestic NPE ratio all the way to 4% by YE24

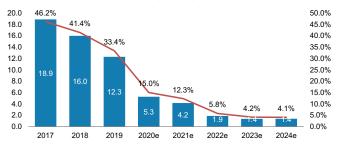
Alpha bank domestic NPE evolution (EUR bn)



Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 19: Eurobank is ahead of the other Greek banks on NPE reduction, and we look for NPE ratio of 6% at YE22 already

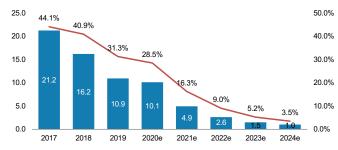
Eurobank domestic NPE evolution (EUR bn)



Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 20: We estimate NBG could decrease its NPE ratio to below 10% by YE22

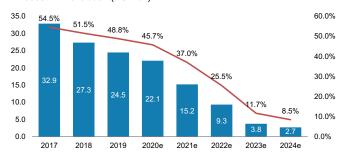
NBG NPE evolution (EUR bn)



Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 21: On our forecasts, Piraeus is the slowest among Greek banks on NPE reduction

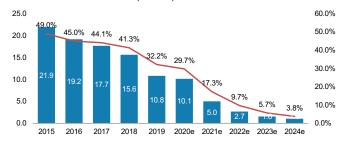
Piraeus NPE evolution (EUR bn)



Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 22: We estimate NBG could decrease its NPE ratio to below 10% by YE22

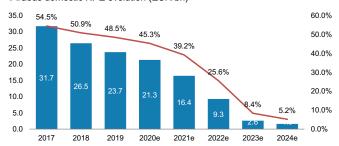
NBG domestic NPE evolution (EUR bn)



Source: Company data, Morgan Stanley Research estimates (e)

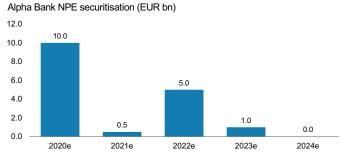
Exhibit 23: On our forecasts, Piraeus is the slowest among Greek banks on NPE reduction

Piraeus domestic NPE evolution (EUR bn)



FOUNDATION

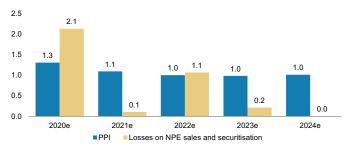
Exhibit 24: Alpha Bank's modeled NPE securitisation schedule



Source: Company data, Morgan Stanley Research estimates (e)

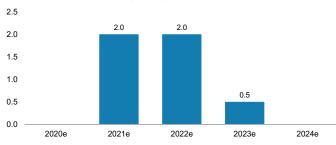
Exhibit 25: Alpha Bank: PPI helps offset losses on NPE sales and securitisations

Alpha Bank PPI and losses on NPE sales & securitisation (EUR bn)



Source: Company data, Morgan Stanley Research estimates (e)

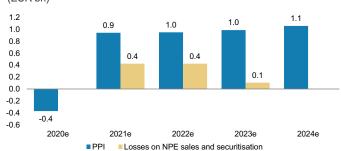
Exhibit 26: Eurobank's modeled NPE securitisation schedule Eurobank NPE securitisation (EUR bn)



Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 27: Eurobank: PPI helps offset losses on NPE sales and securitisations

Eurobank PPI and losses on NPE sales & securitisation (EUR bn)



Source: Company data, Morgan Stanley Research estimates (e)

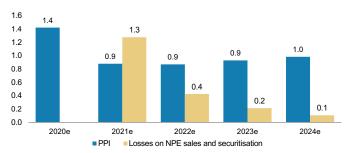
Exhibit 28: NBG's modeled NPE securitisation schedule



Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 29: NBG: PPI helps offset losses on NPE sales and securitisations

NBG PPI and losses on NPE sales & securitisation (EUR bn)



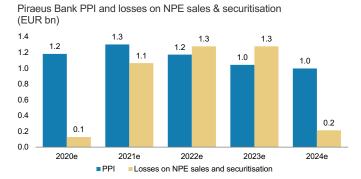
FOUNDATION

Exhibit 30: Piraeus's modeled NPE securitisation schedule



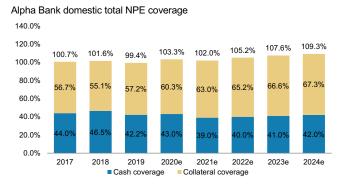
Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 31: Piraeus Bank: PPI helps offset losses on NPE sales and securitisations



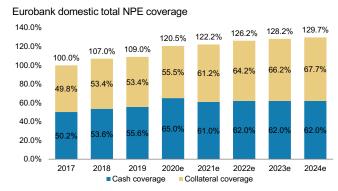
Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 32: Alpha Bank: forecasted NPE coverage evolution



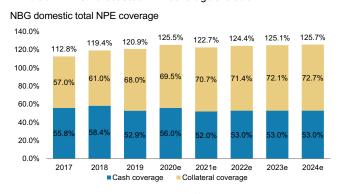
Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 33: Eurobank: forecasted NPE coverage evolution



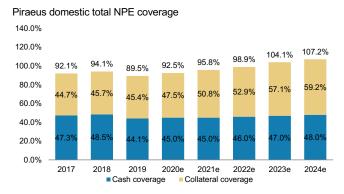
Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 34: NBG: forecasted NPE coverage evolution



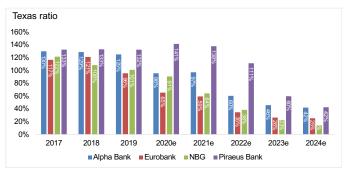
Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 35: Piraeus Bank: forecasted NPE coverage evolution



FOUNDATION

Exhibit 36: Texas ratios of Greek banks



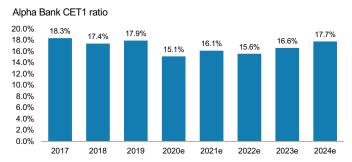
Source: Banks' data, Morgan Stanley Research estimates (e)

Exhibit 37: Greek bank NPEs (EURbn)



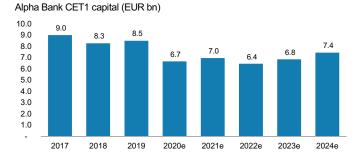
Source: Banks' data, Morgan Stanley Research estimates

Exhibit 38: Alpha Bank: forecasted CET1 evolution



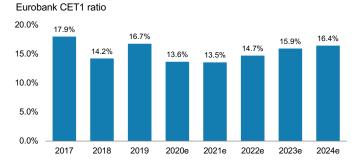
Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 39: Alpha Bank: forecasted CET1 evolution



Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 40: Eurobank: forecasted CET1 evolution



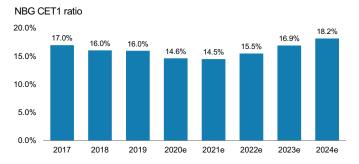
Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 41: Eurobank: forecasted CET1 evolution



FOUNDATION

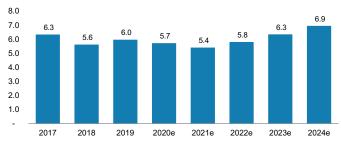
Exhibit 42: NBG: forecasted CET1 evolution



Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 43: NBG: forecasted CET1 evolution

NBG CET1 capital (EUR bn)

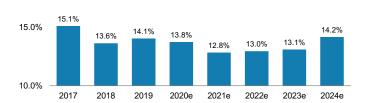


Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 44: Piraeus Bank: forecasted CET1 evolution

Piraeus CET1 ratio

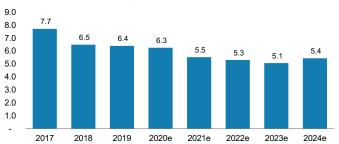
20.0%



Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 45: Piraeus Bank: forecasted CET1 evolution

Piraeus CET1 capital (EUR bn)

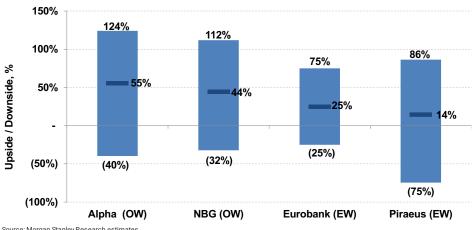


Valuation

Valuation approach

Price target summary

Exhibit 46: Comparative risk/reward: implied upside / downside to our bull, bear and base case scenarios



Source: Morgan Stanley Research estimates

Exhibit 47: Price target summary (EUR)

	Stock rating	Current price	Price Target Bear	Up / (Down)	Price Target	Up / (Down)	Price Target Bull	Up / (Down)
Alpha Bank	O/W	0.58	0.35	-39.7%	0.90	55.2%	1.30	124.1%
Eurobank	E/W	0.40	0.30	-25.0%	0.50	25.0%	0.70	75.0%
NBG	O/W	1.18	0.80	-32.2%	1.70	44.1%	2.50	111.9%
Piraeus	E/W	1.18	0.30	-74.6%	1.35	14.4%	2.20	86.4%
Source: Morgan Stanley	Decearch estimates							

How we arrive at our target prices - valuation methodology

Our focus on NPE reduction and reaching sustainable RoE levels translate into the following target price / valuation approach:

- We value Greek banks using a two-stage Gordon Growth Model that bases the PT on a discounted terminal value and adds back the value of discounted interim dividends.
- Our target prices are 12M-forward looking.
- Our operating models have five years of explicit forecasts, during which we are using available capital cushion and pre-provisioning income to reduce NPEs.
- Rather than using forecasts from our final modelled year (2024e), we estimate midcycle terminal RoEs separately.
- We use 20% cost of equity estimate for the Greek banks.
- Finally, we round our target prices to the nearest €c.5.

Sustainable RoE levels

We believe it is important to establish what Greek banks could look like post balance sheet cleanup and we attempt to estimate their sustainable RoE levels five-six years down the road using trends in key underlying components (such as NIM, cost/ income, balance sheet decomposition etc.) and our proprietary DuPont-like model for RoE analysis (see sections 'Greek banks after cleanup' and Appendix D for more detail). We conclude that Alpha, Eurobank and NBG can be 8.5-9.5% RoE banks. Piraeus is the most tricky one as we believe it will likely take at least five years for full balance sheet cleanup hence our sustainable estimate for its RoE of 6.3% is still under pressure from higher NPE ratio.

Price targets' sensitivity to key inputs

Exhibit 48: Alpha Bank price target (not rounded) sensitivity to RoE and CoE

				CoE		
	0.89	19.0%	19.5%	20.0%	20.5%	21.0%
	7.5%	0.82	0.78	0.75	0.72	0.69
	8.0%	0.89	0.86	0.82	0.79	0.76
RoE	8.5%	0.97	0.93	0.89	0.85	0.82
	9.0%	1.04	1.00	0.96	0.92	0.88
	9.5%	1.12	1.07	1.03	0.99	0.95

Source: Morgan Stanley Research estimates

Exhibit 49: Eurobank price target (not rounded) sensitivity to RoE and CoE

				CoE		
	0.48	19.0%	19.5%	20.0%	20.5%	21.0%
	7.5%	0.45	0.43	0.42	0.40	0.39
	8.0%	0.48	0.46	0.45	0.43	0.42
RoE	8.5%	0.51	0.49	0.48	0.46	0.44
	9.0%	0.54	0.52	0.50	0.49	0.47
	9.5%	0.57	0.55	0.53	0.51	0.50

Source: Morgan Stanley Research estimates

Exhibit 50: NBG price target (not rounded) sensitivity to RoE and CoE

			COE		
1.67	19.0%	19.5%	20.0%	20.5%	21.0%
8.5%	1.57	1.51	1.44	1.39	1.33
9.0%	1.69	1.62	1.56	1.49	1.43
9.5%	1.81	1.74	1.67	1.60	1.54
10.0%	1.94	1.85	1.78	1.71	1.64
10.5%	2.06	1.97	1.89	1.81	1.74
	8.5% 9.0% 9.5% 10.0%	8.5% 1.57 9.0% 1.69 9.5% 1.81 10.0% 1.94	8.5% 1.57 1.51 9.0% 1.69 1.62 9.5% 1.81 1.74 10.0% 1.94 1.85	1.67 19.0% 19.5% 20.0% 8.5% 1.57 1.51 1.44 9.0% 1.69 1.62 1.56 9.5% 1.81 1.74 1.67 10.0% 1.94 1.85 1.78	1.67 19.0% 19.5% 20.0% 20.5% 8.5% 1.57 1.51 1.44 1.39 9.0% 1.69 1.62 1.56 1.49 9.5% 1.81 1.74 1.67 1.60 10.0% 1.94 1.85 1.78 1.71

Source: Morgan Stanley Research estimates

Exhibit 51: Piraeus Bank price target (not rounded) sensitivity to RoE and CoE

				<u>CoE</u>		
	1.35	19.0%	19.5%	20.0%	20.5%	21.0%
	5.3%	1.03	1.03	1.03	1.03	1.03
	5.8%	1.19	1.19	1.19	1.19	1.19
RoE	6.3%	1.35	1.35	1.35	1.35	1.35
	6.8%	1.50	1.50	1.50	1.50	1.50
	7.3%	1.66	1.66	1.66	1.66	1.66

Source: Morgan Stanley Research estimates

Comparative valuation

In line with our logic of using all the available profitability to offset potential losses associated with securitisations, we pay less attention to P/E multiples which are not meaningful for the Greek banks over the next two-three years, and pay more attention to P/B multiples.

Trading at 0.1-0.3x 2020e P/B, Greek banks look cheap vs EEMEA peers, although high NPE ratios and not exactly meaningful (i.e. not reflective of sustainable earnings power) earnings estimates for the next several years make direct comparisons less straightforward.

Exhibit 52: Comparative multiples: Greek banks vs EEMEA banks

17-Sep-20	Price	M Cap	Volume	Free		P/E (x)			ang BV (OTE (%)		EPS CAGR (%)	TVPS CAGR (%)		end yield	,
· ·	(local)	(USD bn)	(USDmn)	Float	2020e	2021e	2022e	2020e	2021e	2022e	2020e	2021e	2022e	2019-2022e	2019-2022e	2020e	2021e	2022
Freece	0.6	4.4	F 2	89%	1.0x	-2.7x 3.1x	3.0x	0.2x	0.2x	0.2x	6.3% -23.4%	-4.2% 4.7%	1.4% -8.2%	-52.8% -273.4%	0.9%	0.0%	0.0%	0.0
lpha	0.6	1.1	5.2		-0.5x		-1.8x	0.1x	0.1x	0.2x					-9.4%	0.0%	0.0%	
urobank Ergasias	0.4	1.8	6.3	68%	1.0x	-7.0x	4.1x	0.2x	0.2x	0.2x	20.8%	-2.6%	4.4%	40.6%	9.0%	0.0%	0.0%	0.0
Piraeus	1.2	0.6	2.1	68%	2.7x	-0.5x	5.9x	0.1x	0.1x	0.1x	2.5%	-15.6%	1.3%	-30.8%	-3.7%	0.0%	0.0%	0.0
lational Bank of Greece	1.2	1.3	5.9	60%	1.6x	-2.5x	3.9x	0.2x	0.2x	0.2x	13.2%	-8.6%	5.5%	-6.5%	0.8%	0.0%	0.0%	0.0
tussia	00.05	F.0F	40.40	000/	8.5x	7.3x	5.6x	1.2x	1.0x	0.9x	13.7%	14.6%	16.7%	0.7%	9.9%	10.5%	12.6%	16.3
CS	26.35	5.25	10.42	20%	12.2x	10.1x	7.6x	3.8x	3.0x	2.3x	29.5%	32.9%	34.5%	6.4%	13.8%	1.7%	3.0%	4.0
Sberbank	231.06	66.57	185.18	50%	8.5x	7.1x	5.6x	1.0x	0.9x	0.8x	12.8%	13.8%	16.0%	2.4%	10.3%	11.9%	14.3%	18.4
/TB	0.91	5.88	1.19	30%	5.1x	6.2x	4.7x	0.5x	0.4x	0.4x	8.6%	7.2%	8.9%	-24.0%	1.2%	2.4%	2.1%	4.3
zech Republic	540.0			400/	44.5	40.0	0.0	0.0	0.0	0.0	0.00/	0.70/	0.50/	44.50/	5.00/	0.00/	0.00/	-
Komercni	510.0	4.3	4.1	40%	11.7x	10.6x	9.2x	0.9x	0.9x	0.9x	8.3%	8.7%	9.5%	-11.5%	5.0%	3.9%	6.9%	7.5
Poland	44.4	0.5	0.0	0001	13.3x	9.6x	8.1x	0.6x	0.5x	0.5x	4.8%	5.1%	6.6%	-7.2%	4.1%	2.4%	4.9%	7.0
Nior	14.1	0.5	2.8	68%	nm	-49.2x	6.0x	0.3x	0.3x	0.3x	-6.2%	-0.6%	4.6%	-9.5%	2.1%	0.0%	0.0%	0.0
MBK	181.1	2.0	1.5	31%	20.3x	13.3x	8.0x	0.5x	0.5x	0.4x	2.4%	3.5%	5.7%	-8.3%	2.9%	0.0%	0.0%	3.0
BZ WBK	150.0	4.1	3.5	33%	15.1x	11.8x	8.4x	0.6x	0.6x	0.6x	4.3%	5.3%	7.0%	-6.3%	4.4%	1.7%	4.6%	6.3
Handlowy	36.9	1.3	0.4	25%	16.1x	14.5x	11.1x	NA	NA	NA	5.1%	NA	NA	-5.1%	NA 	1.6%	6.1%	7.7
Millennium	2.9	0.9	1.6	50%	25.1x	15.9x	9.1x	0.4x	0.4x	0.4x	1.6%	2.4%	4.0%	-18.3%	4.2%	0.0%	0.0%	1.0
Pekao	51.0	3.6	13.3	67%	10.9x	9.0x	7.2x	0.6x	0.6x	0.5x	5.5%	6.3%	7.5%	-5.9%	4.3%	0.0%	6.6%	8.5
PKO BP	21.7	7.2	17.8	69%	10.5x	9.9x	8.0x	0.7x	0.6x	0.6x	6.5%	6.5%	7.7%	-6.9%	5.2%	5.1%	6.4%	8.9
Regional					11.3x	8.8x	7.1x	0.8x	0.7x	0.7x	7.5%	8.8%	9.8%	-5.9%	6.8%	3.4%	4.1%	5.1°
Erste	20.5	9.8	23.6	68%	13.8x	10.0x	7.5x	0.7x	0.6x	0.6x	4.9%	6.5%	8.3%	-7.0%	4.5%	4.1%	4.6%	5.99
OTP	10,250.0	9.4	21.4	85%	11.2x	8.9x	7.6x	1.2x	1.1x	0.9x	11.1%	12.6%	13.2%	-3.3%	11.1%	1.6%	3.0%	3.9
Raiffeisen	14.7	5.7	10.7	41%	7.2x	6.6x	5.7x	0.4x	0.4x	0.4x	6.1%	6.4%	7.1%	-8.4%	3.5%	5.0%	5.0%	6.0°
Saudi Arabia	07.0	45.0		0.40/	18.8x	14.6x	13.1x	2.2x	2.1x	1.9x	13.7%	14.2%	14.9%	1.3%	5.4%	4.0%	4.5%	5.0
N Rajhi Bank	67.8	45.2	114.4	94%	18.2x	17.5x	16.5x	3.2x	3.0x	2.8x	18.3%	17.7%	17.7%	-1.1%	7.1%	3.3%	3.9%	4.2
lational Commercial Bank	37.8	30.1	22.5	45%	12.5x	12.1x	10.6x	1.9x	1.8x	1.7x	15.2%	15.2%	16.3%	1.3%	4.5%	4.7%	5.3%	5.8
Riyad Bank	19.7	15.7	11.7	45%	12.1x	12.1x	10.2x	1.4x	1.3x	1.2x	12.1%	11.4%	12.7%	0.0%	6.5%	4.0%	4.3%	5.0
Samba Financial Group	27.9	14.9	12.2	58%	14.2x	14.5x	12.5x	1.2x	1.2x	1.2x	8.8%	8.3%	9.3%	0.4%	4.2%	4.2%	4.7%	5.29
Saudi British Bank	26.0	14.2	11.2	47%	46.7x	13.5x	11.3x	1.4x	1.3x	1.3x	2.8%	9.8%	11.3%	11.0%	1.5%	3.9%	4.6%	5.4
South Africa	0.040.0	10.0	50.4	700/	10.8x	9.4x	7.1x	1.3x	1.2x	1.1x	11.4%	12.2%	14.8%	-2.5%	7.2%	0.0%	0.1%	0.1
Absa Group	8,943.0	13.3	56.1	76%	9.9x	6.9x	5.1x	0.7x	0.7x	0.6x	7.3%	9.7%	12.4%	-3.2%	7.3%	0.0%	0.1%	0.1
Capitec	99,234.0	1.8	5.1	41%	18.2x	28.2x	18.6x	4.5x	3.9x	3.5x	26.5%	14.9%	20.1%	4.6%	13.4%	0.0%	0.0%	0.0
FirstRand	3,962.0	13.7	35.3	44%	11.4x	10.6x	8.4x	1.7x	1.6x	1.4x	15.5%	15.5%	17.7%	-1.8%	7.8%	0.0%	0.0%	0.1
Nexander Forbes	350.0	0.3	0.2	53%	9.0x	10.5x	11.7x	NA	NA	NA	NA.	NA	NA	-15.2%	NA 	0.1%	0.1%	0.1
Nedbank	10,136.0	3.0	13.4	65%	8.7x	6.1x	4.6x	0.6x	0.6x	0.5x	7.0%	9.6%	12.0%	-7.4%	4.3%	0.0%	0.1%	0.1
Standard Bank	11,341.0	11.1	32.5	86%	10.6x	8.7x	6.7x	1.1x	1.0x	0.9x	10.4%	11.8%	14.4%	-2.0%	6.5%	0.0%	0.1%	0.19
urkey					3.8x	2.9x	2.2x	0.4x	0.4x	0.3x	11.2%	13.5%	16.1%	26.7%	10.0%	0.8%	4.2%	7.6
Akbank	4.9	3.4	37.7	58%	4.1x	3.1x	2.4x	0.4x	0.4x	0.3x	11.2%	13.1%	15.2%	25.9%	13.3%	2.8%	7.5%	10.5
Saranti	6.7	3.8	86.0	50%	3.9x	3.0x	2.3x	0.5x	0.4x	0.4x	12.7%	14.6%	17.1%	24.4%	13.3%	0.5%	4.7%	11.0
łalkbank	5.1	1.7	34.9	25%	2.6x	2.1x	1.5x	0.3x	0.3x	0.2x	9.3%	13.5%	16.8%	38.1%	-5.3%	0.0%	0.5%	2.5
sbank	5.0	3.0	21.5	34%	3.7x	2.9x	2.2x	0.4x	0.3x	0.3x	10.4%	11.9%	14.1%	20.5%	11.2%	0.0%	5.3%	8.2
SKB	1.1	0.4	12.4	44%	4.1x	3.2x	2.6x	0.5x	0.4x	0.4x	13.0%	13.4%	14.6%	19.5%	19.6%	2.8%	4.8%	7.0
/akifbank	4.0	2.1	28.3	16%	3.1x	2.5x	1.9x	0.3x	0.3x	0.3x	10.5%	13.5%	16.1%	27.6%	3.6%	0.0%	0.0%	3.5
′api Kredi	2.0	2.3	28.9	30%	4.0x	3.0x	2.1x	0.4x	0.3x	0.3x	9.9%	12.0%	15.0%	27.5%	11.8%	0.0%	2.6%	3.4
EMEA average					13.0x	10.3x	8.8x	1.4x	1.3x	1.2x	12.0%	12.6%	14.2%	-0.2%	6.9%	4.7%	5.8%	7.4

 $Source: Thomson\,Reuters\,consensus\,estimates\,for\,all\,banks\,except\,Russian\,\&\,Greek\,banks, Morgan\,Stanley\,Research\,estimates$

Aside from Eurobank, Greek banks also look cheap vs EU peers, including Italian and Spanish banks.

Exhibit 53: Greek, Italian and Spanish Banks: comparative multiples

Valuation comp																		
17-Sep-20	Price	М Сар	Volume	Free Float		P/E (x)		P/T	ang BV (x)	F	ROTE (%)		EPS CAGR (%)	TVPS CAGR (%)	Divid	end yield	(%)
17-3ep-20	(local)	(USD	(USDmn)	riee rioat	2020e	2021e	2022e	2020e	2021e	2022e	2020e	2021e	2022e	2019-2022e	2019-2022e	2020e	2021e	2022e
Greece					-0.9x	0.3x	-2.1x	-0.1x	-0.1x	-0.1x	0.1%	4.9%	-0.1%			0.0%	0.0%	0.0%
Alpha	0.6	1.1	5.2	89%	-0.5x	3.1x	-1.8x	0.1x	0.1x	0.2x	-23.4%	4.7%	-8.2%	-273.4%	-9.4%	0.0%	0.0%	0.0%
Eurobank Ergasias	0.4	1.8	6.3	68%	1.0x	-7.0x	4.1x	0.2x	0.2x	0.2x	20.8%	-2.6%	4.4%	40.6%	9.0%	0.0%	0.0%	0.0%
Piraeus	1.2	0.6	2.1	68%	2.7x	-0.5x	5.9x	0.1x	0.1x	0.1x	2.5%	-15.6%	1.3%	-30.8%	-3.7%	0.0%	0.0%	0.0%
National Bank of Greece	1.2	1.3	5.9	60%	1.6x	-2.5x	3.9x	0.2x	0.2x	0.2x	13.2%	-8.6%	5.5%	-6.5%	0.8%	0.0%	0.0%	0.0%
Italy					35.1x	9.9x	7.7x	0.5x	0.5x	0.5x	4.0%	5.1%	6.6%	-7.4%	3.1%	4.5%	5.6%	7.1%
Intesa	1.8	36.4	288.2	90%	10.1x	9.6x	8.0x	0.7x	0.6x	0.6x	6.7%	6.7%	7.9%	-2.5%	3.5%	7.5%	7.2%	8.5%
UniCredit	7.9	20.9	204.3	93%	78.4x	9.4x	5.8x	0.3x	0.3x	0.3x	0.4%	3.3%	5.2%	-7.7%	3.4%	1.3%	4.4%	6.5%
Mediobanca	7.3	7.4	54.8	80%	11.0x	11.0x	8.9x	0.7x	0.7x	0.7x	6.3%	6.2%	7.5%	-4.7%	1.6%	3.2%	6.0%	6.2%
Unione di Banche	3.6	4.8	44.5	95%	23.5x	14.0x	8.9x	0.5x	0.5x	0.5x	2.2%	3.6%	5.6%	15.4%	3.1%	1.6%	2.7%	4.4%
Banco BPM	1.4	2.6	50.6	95%	149.1x	12.8x	6.5x	0.2x	0.2x	0.2x	0.1%	1.7%	3.2%	-14.6%	2.4%	0.4%	2.0%	5.0%
Banca Monte dei paschi	1.4	1.8	8.2	27%	nm	nm	15.7x	0.2x	0.2x	0.2x	-9.0%	-1.7%	1.3%	-164.1%	-2.6%	0.0%	0.0%	0.0%
Spain					13.4x	9.4x	6.6x	0.5x	0.5x	0.4x	0.1%	5.5%	7.0%	-8.9%	1.3%	1.5%	4.8%	6.7%
Santander	1.8	35.2	118.8	99%	nm	7.0x	5.4x	0.4x	0.4x	0.4x	-3.3%	6.1%	7.7%	-7.4%	1.2%	2.3%	5.4%	7.4%
BBVA	2.4	19.1	65.7	100%	18.1x	6.5x	5.2x	0.4x	0.4x	0.4x	2.2%	6.1%	7.3%	-9.2%	1.0%	0.1%	5.1%	7.3%
CaixaBank	2.0	14.4	39.8	60%	15.0x	10.5x	7.8x	0.6x	0.6x	0.5x	3.8%	5.4%	7.1%	-6.2%	2.2%	1.9%	4.6%	6.2%
Bankinter	4.5	4.7	16.1	71%	16.1x	14.6x	10.8x	0.9x	0.9x	0.8x	5.6%	6.1%	8.0%	-11.1%	2.7%	0.2%	3.1%	4.4%
Bankia SA	1.4	5.2	15.5	38%	58.3x	25.7x	12.4x	0.3x	0.3x	0.3x	0.6%	1.4%	2.8%	-14.9%	0.0%	1.1%	2.7%	4.2%
Banco Sabadell	0.4	2.4	19.2	100%	60.0x	13.8x	6.6x	0.2x	0.2x	0.2x	0.3%	1.4%	2.9%	-25.7%	1.0%	1.5%	2.9%	4.7%
Unicaja	0.7	1.2	1.8	38%	14.7x	12.3x	8.6x	0.3x	0.3x	0.3x	1.8%	2.2%	3.1%	-15.2%	1.1%	1.2%	3.7%	6.1%

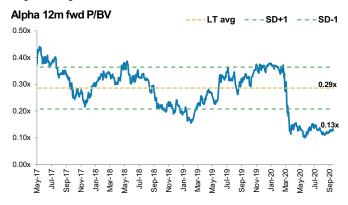
Source: Thomson Reuters consensus estimates for all banks except Greek banks, Morgan Stanley Research estimates

Current valuation levels are low vs history

Greek banks have long been trading at distressed levels due to persisting challenges in the banking sector and the economy. Yet now they are trading well below five year

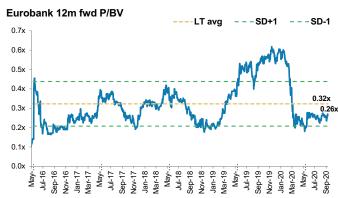
average multiples, despite showing more progress on the NPE reduction front and arguably being closer to NPE reduction targets than before even factoring in potential negative impact from the post-moratoria NPE inflows. At the same time, the long-term profitability outlook has not deteriorated, in our view. In other words, we believe the market is currently pricing a very severe impact on NPE formation from post-moratoria effects that would eat a sizeable chunk of banks' equity.

Exhibit 54: Alpha currently trades at 0.13x fwd P/B, 55% lower than its long term avg of 0.29x



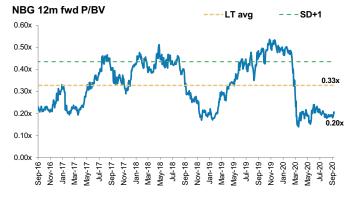
Source: Thomson Reuters, Morgan Stanley Research

Exhibit 55: Eurobank currently trades at 0.3x fwd P/B, vs its long term avg of 0.32x



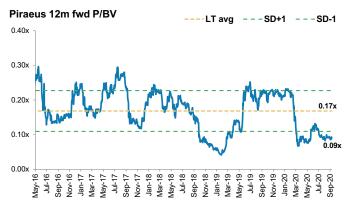
Source: Thomson Reuters, Morgan Stanley Research

Exhibit 56: NBG currently trades at 0.20x fwd P/B, 38% lower than its long term avg of 0.33x



Source: Thomson Reuters, Morgan Stanley Research

Exhibit 57: Piraeus currently trades at 0.1x fwd P/B, 47% lower than its long term avg of 0.17x



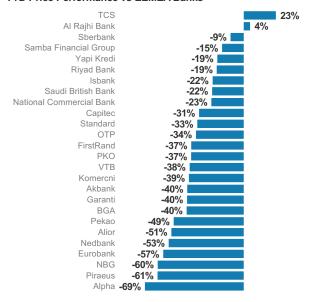
Source: Thomson Reuters, Morgan Stanley Research

Recent share price performance

FOUNDATION

Exhibit 58: YTD, Greek banks are the worst performers in our EEMEA universe...

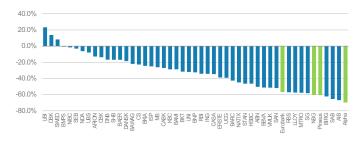
YTD Price Performance vs EEMEA Banks



Source: Thomson Reuters

Exhibit 59: ...as well as MS coverage universe of European banks...

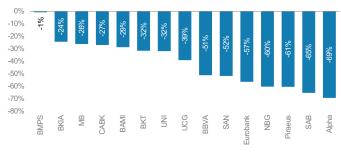
YTD Share Price Performance vs EU Banks



Source: Thomson Reuters

Exhibit 60: ...and particularly vs our Spanish & Italian banks coverage

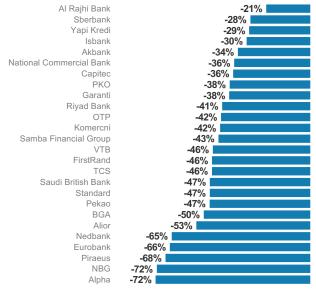
YTD Share Price Performance vs Spanish/Italian Banks



Source: Thomson Reuters

Exhibit 61: This can also be seen in the period from beginning of the year to 23 March, when banks hit their lowest levels for the year

1st Jan to 23 Mar Performance vs EEMEA Banks



Source: Thomson Reuters

Exhibit 62: Greek banks 1 Jan 2020 to trough share price performance vs Spanish & Italian banks

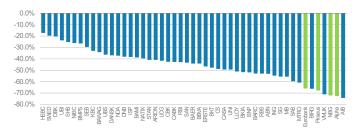
1st Jan to 23 Mar Performance vs Spanish/Italian Banks



Source: Thomson Reuters

Exhibit 63: Greek banks 1 Jan 2020 to trough share price performance vs EU Banks

1st Jan to 23 Mar Performance vs EU Banks

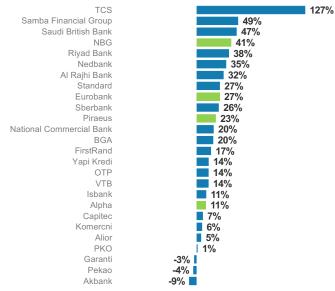


Source: Thomson Reuters

Recovery from trough has been significant but far from offsetting initial share price declines.

Exhibit 64: EEMEA banks trough to today's share price performance

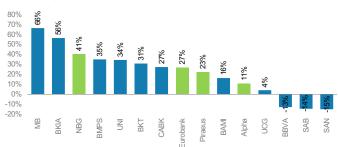
23 Mar to Today Performance vs EEMEA Banks



Source:Thomson Reuters

Exhibit 65: Greek banks trough to today's share price performance vs Spanish & Italian banks

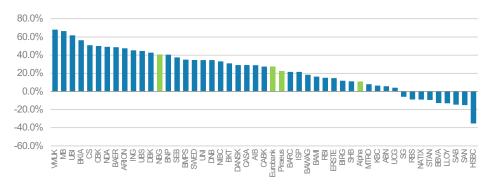
23 Mar to Today Performance vs Spanish/Italian Banks



Source: Thomson Reuters



Exhibit 66: Greek banks trough to today's share price performance vs EU banks 23 Mar to Today Performance vs EU Banks



Source: Thomson Reuters

Our forecasts in detail

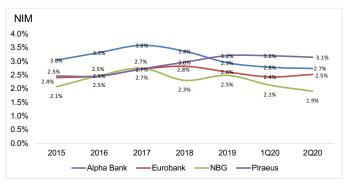
Our detailed forecasts for 2020-24e include NPE reduction described in the previous section as well as outlook for balance sheet items and pre-provisioning income (PPI). The forecasts across the four banks are collated in the chart pack below and are based on:

- Loan growth we expect 2H2O to remain a good environment for new production driven by state support forecasts.
- Funding Greek banks have long not been worried about deposits, which we view
 as stable going forward; banks are also utilising ECB financing, particularly maxing
 out on TLTRO III.
- NII loan rates on new production are lower due to government support programs (guarantees) responsible for most of the growth thus we are likely to see moderate asset yield compression going forward; on the funding side, deposits rates look stable and banks are benefitting from participating in TLTRO.
- Fee dynamics FY20 is set to be weak due to lower economic activity and tourism in particular; we model rebound for 2021 and sustainable growth driven by digitisation after that.
- Trading and other income banks enjoyed nice trading gains on GGBs in 1H2O;
 however, going forward we do not budget major gains in this line.
- Opex outlook taking into account further staff and branch network optimisation plans (although most of those have already played out) and digitisation efforts aimed at improving operating efficiency.
- PPI (pre-provisioning income) power as a result of the above.
- CoR driven by NPE inflows, organic reductions and sustaining total coverage (collateral + cash) around or above 100%.
- Room for losses on sales / securitisation as a result of the above + taking into consideration capital cushion and potential RWA relief from Hercules.
- Taxation 29% corporate tax rate is applied to banks in Greece, income tax is used to gradually amortise DTCs.
- Given our key premise of using underlying profitability to offset losses from NPE securitisation to accelerate balance sheet clean-up, in this section we look at RoTE excluding NPE sales and securitisation associated losses.

Recent trends

FOUNDATION

Exhibit 67: Greek banks: recent NIM evolution



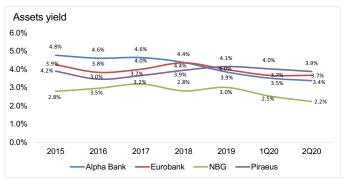
Source: Company data, Morgan Stanley Research

Exhibit 68: Greek banks: recent CoR evolution



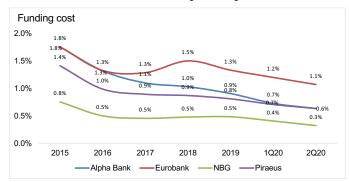
Source: Company data, Morgan Stanley Research

Exhibit 69: Greek banks: recent gross asset yield evolution



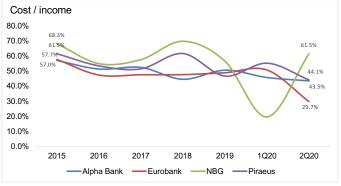
Source: Company data, Morgan Stanley Research

Exhibit 70: Greek banks: recent average funding costs evolution



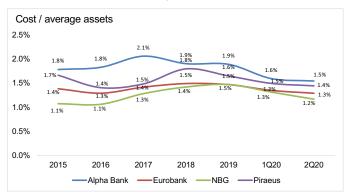
Source: Company data, Morgan Stanley Research

Exhibit 71: Greek banks: recent C/I evolution



Source: Company data, Morgan Stanley Research

Exhibit 72: Greek banks: recent C/A evolution

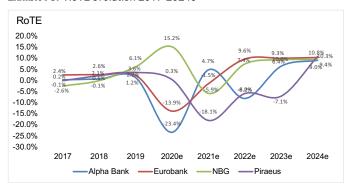


Source: Company data, Morgan Stanley Research

Forecasts

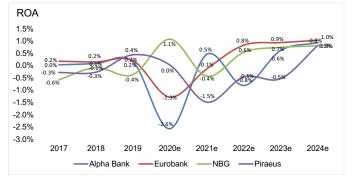
FOUNDATION

Exhibit 73: RoTE evolution 2017-2024e



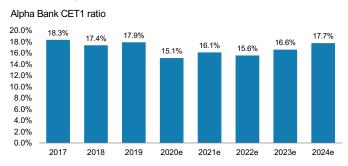
Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 74: RoAA evolution 2017-2024e



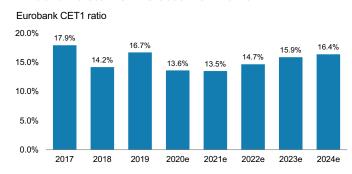
Source:Company data, Morgan Stanley Research estimates (e)

Exhibit 75: Alpha Bank CET1 evolution 2017-2024e



Source: Company data, Morgan Stanley Research estimates (e)

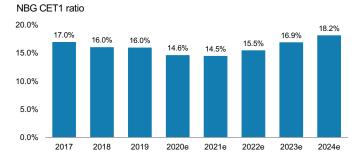
Exhibit 76: Eurobank CET1 evolution 2017-2024e



Source: Company data, Morgan Stanley Research estimates (e)

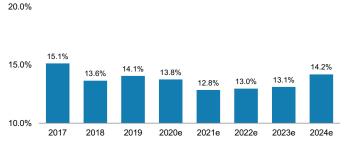
Piraeus CET1 ratio

Exhibit 77: NBG CET1 evolution 2017-2024e



Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 78: Piraeus Bank CET1 evolution 2017-2024e



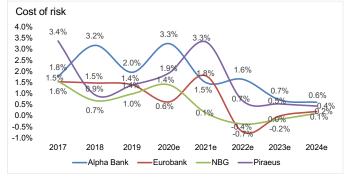
FOUNDATION

Exhibit 79: Greek banks: NIM forecasts



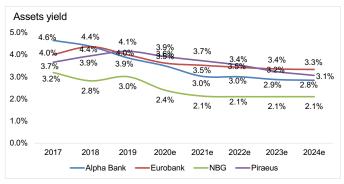
Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 80: Greek banks: CoR forecasts



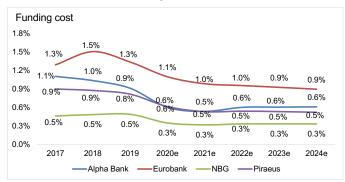
Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 81: Greek banks: asset yield forecasts



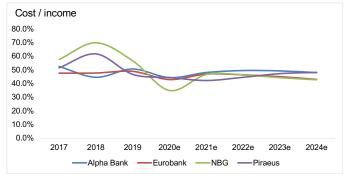
Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 82: Greek banks: funding costs forecasts



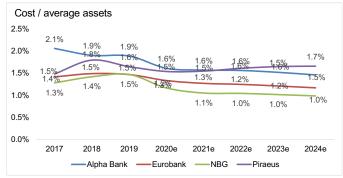
Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 83: Greek banks: C/I forecasts



Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 84: Greek banks: C/A forecasts



Greek banks after cleanup: can they really achieve 10% RoTE?

Building on the previous section, we use our forecasts of Greek banks' operating trends to explore whether they can be sustainable 10% RoTE earners going forward? We find that they can be close but just short of this target, with long-term RoTE levels of 8-9.5% looking more sustainable to us. The key reason for us being somewhat pessimistic about Greek banks attaining sustainable double-digit returns is our expectations of a gradual decrease in margins stemming from fierce competition amid relatively slow loan expansion. Cost optimisation, on the other hand, should help, while the key uncertain element seems to be the long-term cost of risk.

Our estimates for longer-term sustainable RoE levels are based on

- Our DuPont-type RoE breakdown methodology (see Appendix D)
- Trends and expectations for key RoE inputs:
 - o NIM
 - o Fee income
 - o Other income
 - ∘ C/I
 - o CoR
 - Tax rate
 - Leverage (as determined by a simple assets / equity ratio)

Rather than basing our long-term RoE forecasts on our operating forecasts and 2024e RoE numbers in particular, we try to extrapolate each key factor trend, ultimately informing our RoE direction forecast.

Exhibit 85: Alpha Bank RoE

Alpha Bank	<u>2017</u>	<u>2018</u>	2019	2020e	2021e	2022e	2023e	2024e	long term
NIM	3.59%	3.37%	2.95%	2.88%	2.47%	2.38%	2.25%	2.22%	2.20%
IEA/TA	86.22%	85.53%	84.36%	84.27%	84.59%	84.71%	84.81%	84.96%	85.00%
F&C yield	0.51%	0.54%	0.55%	0.55%	0.59%	0.55%	0.58%	0.56%	0.60%
Other income yield	0.32%	0.84%	0.70%	0.66%	0.58%	0.58%	0.59%	0.59%	0.60%
C/I	52.42%	44.53%	50.57%	44.27%	48.02%	49.46%	49.20%	47.92%	46.00%
CoR (on net loans)	2.29%	4.14%	2.49%	3.88%	1.69%	1.81%	0.76%	0.64%	0.70%
Net loans / assets	69.80%	68.59%	63.87%	57.37%	54.09%	53.88%	52.32%	52.22%	52.00%
Tax rate	45.79%	118.30%	33.09%	26.69%	25.00%	25.00%	25.00%	25.00%	25.00%
Equity / assets	14.91%	14.59%	13.35%	11.75%	10.59%	10.68%	10.60%	11.21%	11.40%
RoE DuPont	0.97%	0.59%	1.27%	-1.25%	5.54%	4.36%	8.29%	8.37%	8.51%

Exhibit 86: Eurobank RoE

<u>Eurobank</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020e</u>	<u>2021e</u>	<u>2022e</u>	2023e	2024e	long term
NIM	2.71%	2.82%	2.61%	2.45%	2.44%	2.38%	2.36%	2.38%	2.35%
IEA/TA	85.52%	85.11%	85.97%	84.03%	82.64%	83.03%	83.38%	83.41%	83.00%
F&C yield	0.41%	0.51%	0.48%	0.45%	0.49%	0.51%	0.52%	0.53%	0.60%
Other income yield	0.25%	0.22%	0.28%	0.60%	0.20%	0.20%	0.20%	0.20%	0.20%
C/I CoR (on net loans)	47.56% 1.97%	47.64% 1.85%	48.86% 1.70%	42.85% 0.71%	46.89% 1.97%	46.32% -0.78%	44.97% -0.02%	42.97% 0.20%	43.00% 0.70%
Net loans / assets	60.23%	62.15%	59.96%	53.54%	49.21%	48.83%	48.72%	48.88%	52.00%
Tax rate	2.58%	25.85%	12.50%	24.22%	29.00%	29.00%	29.00%	29.00%	29.00%
Equity / assets	11.50%	10.32%	9.53%	9.48%	8.63%	8.96%	9.71%	10.25%	10.00%
RoE DuPont	3.18%	3.48%	4.77%	11.16%	3.86%	14.47%	10.89%	10.08%	8.55%

Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 87: NBG RoE

<u>NBG</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	2020e	2021e	2022e	2023e	2024e	long term
NIM	2.74%	2.30%	2.48%	2.05%	1.81%	1.77%	1.80%	1.80%	1.80%
IEA/TA	77.91%	73.16%	73.81%	79.25%	81.35%	81.73%	82.22%	82,46%	83.00%
F&C yield	0.33%	0.37%	0.39%	0.37%	0.38%	0.41%	0.42%	0.42%	0.50%
Other income yield	-0.24%	-0.02%	0.37%	1.35%	0.40%	0.40%	0.40%	0.40%	0.40%
C/I	57.59%	69.77%	56.57%	34.85%	46.55%	46.28%	44.26%	42.69%	42.00%
CoR (on net loans)	2.03%	0.92%	1.15%	1.73%	0.14%	-0.41%	-0.17%	0.11%	0.70%
Net loans / assets	55.54%	52.42%	45.86%	42.77%	39.54%	38.56%	38.29%	37.98%	38.00%
Tax rate	-20.61%	68.53%	12.17%	19.42%	29.00%	29.00%	29.00%	29.00%	29.00%
Equity / assets	10.44%	10.02%	8.44%	7.97%	7.64%	7.80%	8.37%	8.94%	8.40%
RoE DuPont	-2.11%	0.42%	6.24%	14.57%	10.70%	12.45%	11.42%	10.19%	9.49%

Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 88: Piraeus Bank RoE

<u>Piraeus</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020e</u>	<u>2021e</u>	<u>2022e</u>	<u>2023e</u>	2024e	long term
NIM	2.72%	2.97%	3.21%	3.22%	3.13%	2.92%	2.63%	2.47%	2.35%
IEA/TA	80.81%	73.50%	72.66%	75.06%	75.88%	75.92%	75.99%	75.98%	75.00%
F&C yield	0.44%	0.52%	0.52%	0.91%	1.15%	1.25%	1.34%	1.42%	1.40%
Other income yield	0.24%	0.21%	0.68%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%
C/I	51.44%	61.64%	46.66%	44.34%	42.17%	44.51%	47.19%	48.08%	48.00%
CoR (on net loans)	4.28%	1.26%	1.80%	2.45%	4.15%	0.79%	0.58%	0.45%	1.10%
Net loans / assets	63.41%	65.34%	64.10%	62.10%	59.81%	58.25%	56.03%	55.05%	56.00%
Tax rate	99.01%	-114.81%	31.87%	0.04%	29.00%	29.00%	29.00%	29.00%	29.00%
Equity / assets	13.01%	13.19%	12.41%	12.52%	12.00%	11.59%	11.48%	11.80%	12.50%
RoE DuPont	-0.10%	4.79%	4.00%	3.27%	-2.13%	9.47%	9.39%	9.27%	6.28%

Source: Company data, Morgan Stanley Research estimates (e)

Long-term RoE sensitivity to NIM & C/I and NIM & CoR

Our DuPont-type RoE decomposition formula also serves as a very useful tool to study RoE sensitivities to key inputs such as NIM, cost/income ratio, and cost of risk.

Exhibit 89: Alpha Bank long-term RoE sensitivity to NIM and C/I

				NIM		
	8.5%	1.3%	1.8%	2.3%	2.8%	3.3%
	44.0%	5.9%	7.5%	9.1%	10.6%	12.2%
	44.5%	5.9%	7.4%	9.0%	10.5%	12.1%
<u>C/I</u>	45.0%	5.8%	7.3%	8.9%	10.4%	11.9%
	45.5%	5.7%	7.2%	8.8%	10.3%	11.8%
	46.0%	5.6%	7.2%	8.7%	10.2%	11.7%

Source: Morgan Stanley Research estimates

Exhibit 90: Alpha Bank long-term RoE sensitivity to NIM and CoR

1.3%	1.8%	2.3%	2.8%	3.3%
8.4%	9.9%	11.4%	12.9%	14.4%
6.7%	8.2%	9.7%	11.2%	12.7%
5.0%	6.5%	8.0%	9.5%	11.0%
3.2%	4.8%	6.3%	7.8%	9.3%
1.5%	3.0%	4.6%	6.1%	7.6%
	8.4% 6.7% 5.0% 3.2%	8.4% 9.9% 6.7% 8.2% 5.0% 6.5% 3.2% 4.8%	8.4% 9.9% 11.4% 6.7% 8.2% 9.7% 5.0% 6.5% 8.0% 3.2% 4.8% 6.3%	8.4% 9.9% 11.4% 12.9% 6.7% 8.2% 9.7% 11.2% 5.0% 6.5% 8.0% 9.5% 3.2% 4.8% 6.3% 7.8%

Source: Morgan Stanley Research estimates

FOUNDATION

Exhibit 91: Eurobank long-term RoE to NIM and C/I sensitivity

				NIM		
	8.5%	1.8%	2.3%	2.8%	3.3%	3.8%
	41.0%	7.0%	8.8%	10.5%	12.2%	14.0%
	41.5%	6.9%	8.7%	10.4%	12.1%	13.8%
<u>C/I</u>	42.0%	6.9%	8.6%	10.3%	12.0%	13.7%
	42.5%	6.8%	8.5%	10.2%	11.9%	13.6%
	43.0%	6.7%	8.4%	10.1%	11.7%	13.4%

Source: Morgan Stanley Research estimates

Exhibit 92: Eurobank long-term RoE to NIM and CoR sensitivity

				<u>NIM</u>		
	8.5%	1.8%	2.3%	2.8%	3.3%	3.8%
	0.2%	8.7%	10.4%	12.1%	13.8%	15.4%
	0.7%	6.9%	8.6%	10.2%	11.9%	13.6%
CoR	1.2%	5.0%	6.7%	8.4%	10.1%	11.8%
	1.7%	3.2%	4.9%	6.6%	8.2%	9.9%
	2.2%	1.3%	3.0%	4.7%	6.4%	8.1%

Source: Morgan Stanley Research estimates

Exhibit 93: NBG long-term RoE to NIM and C/I sensitivity

				NIM		
	9.5%	0.8%	1.3%	1.8%	2.3%	2.8%
	46.0%	4.9%	6.8%	8.7%	10.6%	12.5%
	46.5%	4.8%	6.7%	8.6%	10.5%	12.3%
<u>C/I</u>	47.0%	4.8%	6.6%	8.5%	10.3%	12.2%
	47.5%	4.7%	6.5%	8.4%	10.2%	12.1%
	48.0%	4.6%	6.4%	8.3%	10.1%	11.9%

Source: Morgan Stanley Research estimates

Exhibit 94: NBG long-term RoE to NIM and CoR sensitivity

				<u>NIM</u>		
	9.5%	0.8%	1.3%	1.8%	2.3%	2.8%
	-0.2%	8.3%	10.3%	12.4%	14.4%	16.4%
	0.3%	6.7%	8.7%	10.8%	12.8%	14.8%
<u>CoR</u>	0.8%	5.1%	7.1%	9.2%	11.2%	13.2%
	1.3%	3.5%	5.5%	7.6%	9.6%	11.6%
	1.8%	1.9%	3.9%	6.0%	8.0%	10.0%

Source: Morgan Stanley Research estimates

Exhibit 95: Piraeus long-term RoE to NIM and C/I sensitivity

				NIM		
	6.3%	2.2%	2.7%	3.2%	3.7%	4.2%
	29.0%	9.4%	10.9%	12.4%	13.9%	15.5%
	29.5%	9.3%	10.8%	12.3%	13.8%	15.3%
<u>C/I</u>	30.0%	9.2%	10.7%	12.2%	13.7%	15.2%
	30.5%	9.1%	10.6%	12.1%	13.6%	15.1%
	31.0%	9.0%	10.5%	12.0%	13.5%	14.9%

Source: Morgan Stanley Research estimates

Exhibit 96: Piraeus long-term RoE to NIM and CoR sensitivity

				NIIVI		
	6.3%	2.2%	2.7%	3.2%	3.7%	4.2%
	0.2%	9.0%	10.1%	11.2%	12.3%	13.4%
	0.7%	7.4%	8.5%	9.6%	10.7%	11.8%
CoR	1.2%	5.8%	6.9%	8.0%	9.1%	10.2%
	1.7%	4.2%	5.3%	6.4%	7.5%	8.6%
	2.2%	2.6%	3.7%	4.8%	5.9%	7.0%

Source: Morgan Stanley Research estimates

Alpha Bank

Investment thesis

Alpha Bank is trading at 0.1x 2020e P/B, below peers Eurobank (0.3x) and NBG (0.2x), which we attribute to much higher NPE ratio of 44% in 2Q20. Despite the high NPE ratio, we believe that Alpha Bank has enough capital and coverage cushion to drive it down to 10% on a group level and below 5% in Greece standalone by YE24. On our numbers, this would come at a significant cost of €3.6bn (additional provisioning and losses on sales of junior tranches), which would be compensated by pre-provisioning profit over the period as well as some capital relief from securitisation under HAPS. The NPE reduction is likely to be accelerated by the €10bn Galaxy securitisation deal which Alpha plans to close by YE20.

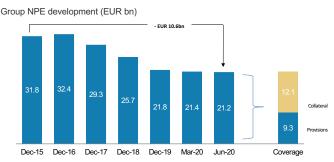
Studying underlying profitability trends, we believe that by 2025 Alpha Bank could start earning a sustainable RoTE of about 9% on its tangible equity of €6.8bn. This (coupled with an 18% cost of equity and 1% growth rate) translates into our Gordon-growth based share price target of €0.90. This implies upside potential of 55% and coupled with our confidence in Alpha's ability to drastically reduce NPEs, makes us Overweight.

NPE reduction

Recent progress

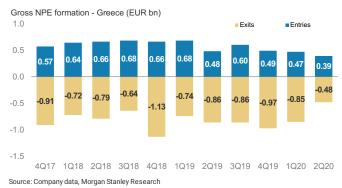
Alpha Bank reduced its NPE stock by 33% from €31.8bn at YE15 to €21.2bn as of 2Q20. Its NPE ratio has come down from 51.3% at YE15 to 43.5% as of 1Q20. Still, Alpha's current NPE ratio is the second highest among the four systemic Greek banks, behind only Piraeus Bank.

Exhibit 97: Alpha Bank's NPE stock declined from €31.8bn at YE15 to €21.2bn in 2Q20



Source: Company data, Morgan Stanley Research

Exhibit 98: For the past 2.5 years Alpha Bank's net NPE formation has been negative every quarter



Plans pre-COVID and key transactions outlined

Prior to the pandemic, Alpha Bank was targeting an NPE ratio of less than 10% by YE22 from 45% at YE19, on the back of negative organic NPE flows, Galaxy securitisation project worth €10bn (with planned completion in 2020), and additional disposal of

Neptune portfolio worth €1.1bn by 3Q20.

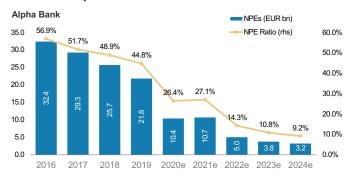
Latest update: as of end-August, Alpha has reported significant progress in the Galaxy transaction, expecting to close it by end-year. The bank also has better visibility on the capital effect, anticipating total CAR to decline 250-280bp as a result of the transaction. Closing on Galaxy alone would bring Alpha's NPE ratio below 25%.

How COVID can impact NPE formation and cleanup

By end-June, c.€4.7bn of loans were under moratoria, representing the first and biggest source of potential NPE inflows post-moratoria end (i.e. in 2021). In our base case we forecast 25% of these loans turn sour, which would increase NPE ratio by c.3ppts (on 2Q20 numbers on a pro-forma basis). However, with securitisations and other NPE reduction means continuing, this would only represent a temporary bump up in the NPE ratio that would not lead to significant losses.

Balance sheet clean-up: our forecasts

Exhibit 99: We forecast that Alpha will be able to reduce its group NPE ratio to c.10% by YE24



Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 100: Alpha Bank's tangible equity is likely to decline between 2019 and 2024 due to NPE reduction costs



Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 101: PPI evolution

Alpha Bank - PPI (EUR mn)

2,000

1,500

1,162 1,174

1,148

1,304

1,092 1,001 984 1,006

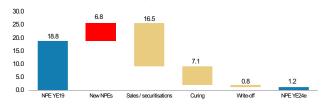
500

2016 2017 2018 2019 2020e 2021e 2022e 2023e 2024e

FOUNDATION

Exhibit 102: We forecast Alpha to sell and securitise a total of €17bn NPEs in 2020-24...

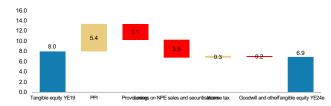
Alpha Bank Greece NPE 2019-2024e (EUR bn)



Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 103: ... which would come at a €3.6bn cost associated with this NPE reduction

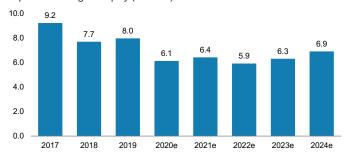
Alpha Bank tangible equity 2019-2024e (EUR bn)



Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 104: Alpha Bank's tangible equity

Alpha Bank tangible equity (EUR bn)



Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 105: Alpha Bank's CET1 ratio

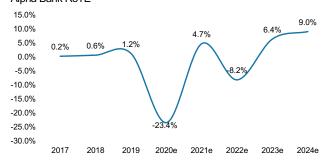
Alpha Bank CET1 ratio and RWA (EUR bn)



Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 106: RoTE evolution

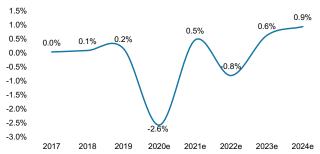
Alpha Bank RoTE



Source: Company data, Morgan Stanley Research estimates (e)

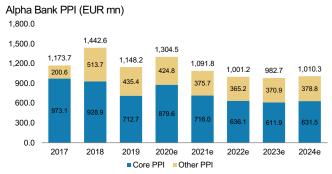
Exhibit 107: RoAA evolution

Alpha Bank ROAA



FOUNDATION

Exhibit 108: PPI evolution



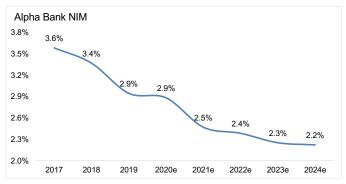
Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 109: PPI yield on assets and on tangible equity



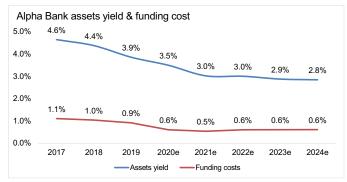
Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 110: We forecast NIM compression over the next 5 years...



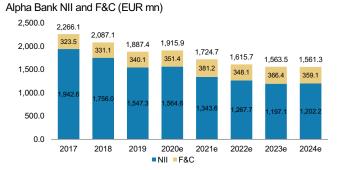
Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 111: ... driven mostly by asset yield reduction



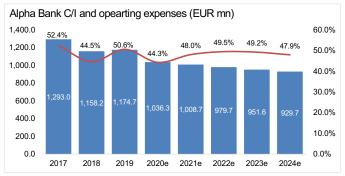
Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 112: NII is likely to remain the majority of core revenues...



Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 113: ... while C/I improvements would be hard to come by due to NIM compression



Source: Company data, Morgan Stanley Research estimates (e)

What comes next: our forecasts part 2

Alpha's own targets for profitability (and size)

Alpha Bank's target RoE by 2022 is around 9%. This target takes into account target loan disbursements of around €3.5bn per annum in 2020-2022. The Bank expects net F&C income of €445m in FY22. In terms of the cost base, Alpha Bank has targeted a recurring opex of around €960m, translating into a CIR of less than 48% by 2022. The



Bank is also aiming to reduce its NPE ratio to less than 10% by 2022, and have a CoR of less than 70 bps by 2022.

Our forecasts for sustainable RoE

Studying underlying profitability trends, we believe that by 2025 Alpha Bank could start earning a sustainable RoTE of about 9% on its tangible equity of €6.8bn.

Exhibit 114: Alpha Bank RoE key factors forecast

Alpha Bank	<u>2017</u>	<u>2018</u>	<u>2019</u>	2020e	<u>2021e</u>	2022e	2023e	2024e	long term
NIM	3.59%	3.37%	2.95%	2.88%	2.47%	2.38%	2.25%	2.22%	2.20%
IEA/TA	86.22%	85.53%	84.36%	84.27%	84.59%	84.71%	84.81%	84.96%	85.00%
F&C yield	0.51%	0.54%	0.55%	0.55%	0.59%	0.55%	0.58%	0.56%	0.60%
Other income yield	0.32%	0.84%	0.70%	0.66%	0.58%	0.58%	0.59%	0.59%	0.60%
C/I	52.42%	44.53%	50.57%	44.27%	48.02%	49.46%	49.20%	47.92%	46.00%
CoR (on net loans)	2.29%	4.14%	2.49%	3.88%	1.69%	1.81%	0.76%	0.64%	0.70%
Net loans / assets	69.80%	68.59%	63.87%	57.37%	54.09%	53.88%	52.32%	52.22%	52.00%
Tax rate	45.79%	118.30%	33.09%	26.69%	25.00%	25.00%	25.00%	25.00%	25.00%
Equity / assets	14.91%	14.59%	13.35%	11.75%	10.59%	10.68%	10.60%	11.21%	11.40%
RoE DuPont	0.97%	0.59%	1.27%	-1.25%	5.54%	4.36%	8.29%	8.37%	8.51%



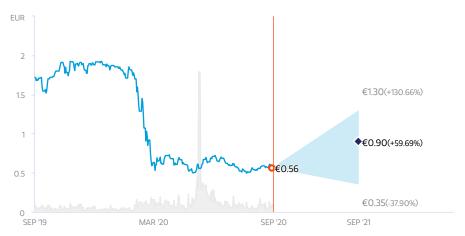
Risk Reward – Alpha Bank SA (ACBr.AT)

Top pick: biggest cleanup opportunity

PRICE TARGET €0.90

PT weighted 100% base case on target P/BV derived from Gordon Growth model, in which our base case COE = 20%, sustainable RoTE of 8.5%, earnings growth = 2%.

RISK REWARD CHART



Key: — Historical Stock Performance ○ Current Stock Price ◆ Price Target

Source: Thomson Reuters, Morgan Stanley Research

OVERWEIGHT THESIS

- In our base case we expect Alpha Bank to reduce domestic NPEs to €8bn by 2021e (vs €18.9bn at YE19).
- We expect capital ratios to remain above regulatory requirements with the Basel III CET1, IFRS9-phased in ratio remaining above 15% despite capital consumption during the €16.5bn securitisation we have in our base case.
- Despite significant potential and a large securitisation deal in the works. Alpha bank is trading at 0.1x 2020e book and does not fully price the benefits from balance sheet de-risking.

Risk Reward Themes

Earnings Quality: Negative

View descriptions of Risk Rewards Themes, here

BULL CASE

0.3x Bull Case 2021e P/B

Sharper macro recovery allows banks to

speed up organic NPE reduction efforts without relying on additional securitisations. We apply a 10% RoTE to our 2024e valuation.

€1.30 **BASE CASE**

0.2x Base Case 2021e P/B

Alpha is able to speed up NPE reduction using a securitisation and utilising government guarantees. Cost of risk trends lower as the balance sheet is cleaned. We apply an 8.5% RoTE to our 2024e valuation.

BEAR CASE

€0.90

0.1x Bear Case 2021e P/B

Alpha is unable to rely on securitisations to speed up NPE reduction. Rates of recovery and default improve somewhat but cost of risk still anchored at a high level in line with high NPE burdens. We apply a 6% RoTE to our 2024e valuation.

€0.35



Risk Reward – Alpha Bank SA (ACBr.AT)

KEY EARNINGS INPUTS

Drivers	2019	2020e	2021e	2022e
Reported EPS growth (%)	83.2	NA	NA	NA
Gross loan growth (%)	(7.1)	(19.3)	0.4	(11.1)
CoR (%)	2.0	3.3	1.5	1.6
Tier 1 ratio (%)	17.9	15.1	16.1	15.6
Net interest margin (%)	2.9	2.9	2.5	2.4

INVESTMENT DRIVERS

NPE reduction, improving cost of risk

GLOBAL REVENUE EXPOSURE



Source: Morgan Stanley Research Estimate View explanation of regional hierarchies, <u>here</u>

RISKS TO PT/RATING

RISKS TO UPSIDE

 Faster than expected GDP growth feeds through to a marked increase in successful NPE restructurings, allowing banks to accelerate NPE reduction without the need to dispose/sell/securitise NPEs.

RISKS TO DOWNSIDE

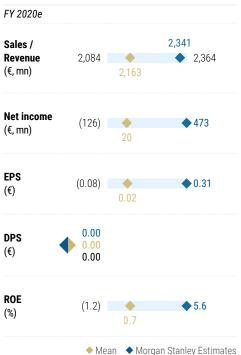
 Early stage (and therefore still fragile) recovery in macro environment is vulnerable to external shocks.

OWNERSHIP POSITIONING



Source: Morgan Stanley Prime Brokerage. Includes certain hedge fund exposures held with MSPB. Information may be inconsistent with or may not reflect broader market trends. Long/Short Ratio = Long Exposure / Short exposure. Sector % of Total Net Exposure = (For a particular sector: Long Exposure - Short Exposure) / (Across all sectors: Long Exposure - Short Exposure).

MS ESTIMATES VS. CONSENSUS



Source: Thomson Reuters, Morgan Stanley Research

Summary financials

Exhibit 115: Alpha Bank: Financial Summary

Alpha Bank: Fir	lancia	ส		ary								PRICE	0.5
21/09/2020							D.C. A. J. C.						
Income Statement	EV47	EV40	EV40	EV20E	EV24E	FY22E	Ratio Analysis	EV47	EV40	EV40	FY20E	EV24E	FY22
EUR in millions, year-end Dec	FY17	FY18	FY19	FY20E	FY21E		Per Share Data EPS reported	FY17	FY18	FY19		FY21E	
Net interest income	1,943	1,756	1,547	1,565	1,344	1,268		0.01	0.03	0.06	-1.07	0.19	-0.3
% YoY change	1%	-10%	-12%	1%	-14%	-6%	% YoY change	-50%	151%	83%	-1807%	na	-270%
Fee & commission income	323	331	340	351	381	348	DPS	0.00	0.00	0.00	0.00	0.00	0.0
% YoY change	2%	2%	3%	3%	8%	-9%	% YoY change	nm	nm	nm	nm	nm	nr
Trading revenues							Dividend yield	0.0%	0.0%	0.0%	0.0%	0.0%	0.09
% YoY change	nm	nm	nm	nm	nm	nm	Payout ratio	0%	0%	0%	0%	0%	0%
Other non interest income	201	514	435	425	376	365	TBV per share	5.99	4.99	5.17	3.98	4.17	3.8
% YoY change	38%	156%	nm	-2%	-12%	-3%	Shares o/s (common)	1,543	1,544	1,544	1,544	1,544	1,54
Total operating revenues	2,467	2,601	2,323	2,341	2,100	1,981	Shares o/s (pref)						
% YoY change	3%	5%	-11%	1%	-10%	-6%							
Staff costs	-474	-475	-460	-426	-422	-414	Valuation metrics						
% YoY change	-7%	0%	-3%	-7%	-1%	-2%	P/E	42.5x	16.9x	9.2x	nm	3.0x	nn
Other expenses	-819	-683	-715	-610	-587	-565	P/TBV	0.10x	0.12x	0.11x	0.15x	0.14x	0.15
% YoY change	14%	-17%	5%	-15%	-4%	-4%							
Total expenses	-1,293	-1,158	-1,175	-1,036	-1,009	-980	Profitability						
% YoY change	6%	-10%	1%	-12%	-3%	-3%	RoATE	0.2%	0.6%	1.2%	-23.4%	4.7%	-8.2%
Pre-provision operating profit	1,174	1,443	1,148	1,304	1,092	1,001	RoAA	0.0%	0.1%	0.2%	-2.6%	0.5%	-0.8%
% YoY change	1%	23%	-20%	14%	-16%	-8%	RoRWA	0.0%	0.1%	0.2%	-3.6%	0.7%	-1.29
Loan loss provisions	-1,005	-1,731	-990	-1,433	-589	-611	NIM (NII / AIEA)	3.59%	3.37%	2.95%	2.88%	2.47%	2.38%
Other provisions	,	,		,			Total rev / average assets	3.9%	4.3%	3.7%	3.6%	3.3%	3.2%
Other non recurrent pre-tax	-3	-1	-13	-2,130	-106	-1,065	Total rev / RWAs	5.0%	5.5%	4.9%	5.3%	4.9%	4.8%
Pretax profit	165	-289	145	-2,258	396	-675	NII / tot revenues	79%	68%	67%	67%	64%	64%
Tax	-76	342	-48	603	-99	169	Fees / tot revenues	13%	13%	15%	15%	18%	18%
% Tax rate	46%	118%	33%	27%	25%	25%	Trading / tot revenues	0%	0%	0%	0%	0%	0%
Discontinued ops + minorities	-68	0	0	0	0	0	ridalig/ tot rovortico	070	070	0,0	0,0	0,0	0,
Reported net income	21	53	97	-1,656	297	-506	Efficiency						
•	90	53	97	-1,656	297	-506	Cost / income	52%	45%	51%	44%	48%	49%
Adj net income from cont. ops	90	33	31	-1,030	291	-300	Cost / assets	2.1%	1.9%	1.9%	1.6%	1.6%	1.6%
Dalamas about							Cost / RWAs	2.1%	2.4%	2.5%	2.3%	2.3%	2.4%
Balance sheet	5/47	F)///0	F)///0	E)/00E	E)/04E	FYCOF	COST / RVVAS	2.0%	2.470	2.5%	2.3%	2.370	2.47
EUR in millions, year-end Dec ASSETS	FY17	FY18	FY19	FY20E	FY21E	FY22E	Balance Sheet Gearing						
Gross customer loans	56,612	52,463	48,731	39,338	39,489	35,109	Loan / deposit	162%	135%	121%	99%	104%	92%
% YoY change	-1%	-7%	-7%	-19%	0%	-11%	Securities / assets	10%	11%	14%	21%	21%	24%
Loan loss reserves	-13,294	-12,235	-9,465	-4,728	-4,571	-2,410	Loan / assets	93%	86%	77%	60%	62%	56%
Securities	5,893	,		,	,	,	Deposits / funding	95%	95%	94%	93%	93%	93%
	,	7,013	8,703	13,503	13,282	14,908	, ,						
Other interest earnings assets	3,309	4,429	5,361	7,068	5,354	5,143	Debt / funding	5%	5%	6%	7%	7%	7%
% YoY change	-5%	34%	21%	32%	-24%	-4%							
Average interest earnings assets	54,182	52,095	52,500	54,255	54,367	53,152	Asset Quality						
Goodwill and intangibles	1,287	1,228	1,338	1,261	1,116	1,082	NPEs	29,272	25,674	21,827	10,389	10,685	5,030
Other assets	7,000	8,109	8,790	8,868	8,571	8,420	% YoY change	nm	-12%	-15%	-52%	3%	-53%
Total assets	60,808	61,007	63,458	65,309	63,242	62,252	NPEs/gross loans	52%	49%	45%	26%	27%	14%
LIABILITIES							Loan loss reserves/NPEs	45%	48%	43%	46%	43%	48%
Customer deposits	34,890	38,732	40,364	39,651	37,895	38,084	Cost of risk	1.77%	3.17%	1.96%	3.25%	1.49%	1.64%
% YoY change	6%	11%	4%	-2%	-4%	0%							
Due to banks	13,142	10,456	10,261	13,974	13,559	13,288	Capital (Phased-in IFRS9)						
Long term funding	1,685	2,091	2,536	3,184	3,043	3,058	B3 CT1	8,994	8,273	8,495	6,658	6,956	6,450
Average interest bearing liabs	51,861	50,498	52,220	54,985	55,653	54,464	% YoY change	4%	-8%	3%	-22%	4%	-7%
Other liabilities	1,464	1,584	1,821	1,842	1,789	1,372	RWAs	49,061	47,640	47,460	44,105	43,182	41,466
Shareholders' equity	9,627	8,143	8,476	6,658	6,956	6,450	% YoY change	-3%	-3%	0%	-7%	-2%	-4%
Total liabilities	60,808	61,007	63,458	65,309	63,242	62,252	B3 CT1 Ratio	18.3%	17.4%			16.1%	15.6%

Alpha Bank: banking group profile

Alpha Bank is a Greek universal bank operating mainly in Greece but also in South East and Eastern European countries such as Cyprus, Romania, Bulgaria, Serbia, Albania, Macedonia, and Ukraine. 85.9% of the Group's gross loan portfolio is concentrated in Greece. Based on 1Q20 data, the Group's total headcount is 10,511, of which 7,330 are based in Greece. The branch network consists of 556 branches globally, of which 369 are in Greece. Alpha Bank's customer base in Greece was 3.1m as of YE19.

Alpha Bank's largest shareholder is the HFSF, with an 11% stake. The remaining 89% of shares are in free float, with 78%/11% breakdown between foreign/Greek institutional investors respectively (as of YE19). The shares are listed on the Athens Stock Exchange.

Alpha bank had €63.46bn in total assets as of 1Q20, €49.1bn in gross loans and €40.37bn in deposits. Corporate loans represented 54% of Alpha Bank's gross loan book as of 1Q20, retail loans represented 46%. The largest industries by their share in Alpha's corporate book were trade (24.1%), manufacturing (20.4%), transportation (11.1%), and construction (11.1%). Mortgages represented 76% of the bank's retail portfolio, while consumer loans were at 24%.

At the end of 1Q20 Alpha Bank had a 23.2% market share by gross loans in Greece, and a 18.1% market share by deposits.

Alpha Bank earned €1.55bn in NII in FY19, which translates into a 2.5% NIM. Average loan yield for FY19 was 4%, cost of deposits was around 0.5%. Net F&C income in FY19 was €340m, giving a yield on average assets of 0.55%. Main contributors to net F&C income were credit card fees (€72m on net basis, or 21.1%), loans fees (€51m, or 14.9%), letters of guarantee (€45.4m, or 13.4%), and funds transfer (€45.6m, or 13.4%). Total revenue for FY19 was €2.32bn, down from €2.44bn for FY14.

The main feature of Alpha Bank's NPE reduction plan is Project Galaxy, which consists of €12bn NPE securitisation, as well as outsourcing of €7bn of NPE servicing. The bank is aiming to close the transaction by YE20. Its NPE ratio stood at 43.5% as of 1Q20, down from 53.7% at YE16. NPE coverage stood at 44% as of 1Q20, down from 50% as of YE15.

Eurobank

Investment thesis

Eurobank is trading at 0.3x 2020e P/B, ahead of the other Greek banks, which we believe is due to its best-in-class NPE ratio of 15% in 2Q20. With the closure of the €7bn Cairo NPE securitisation deal, Eurobank has completed its strategic transformation plan, although we believe it is not done with NPE reduction yet. We believe that Eurobank has enough capital and coverage cushion to drive it down to below 6% by YE22 and believe it could start building up capital from that point on.

Studying underlying profitability trends, we believe that by 2025 Eurobank could start earning a sustainable RoTE of about 9% on its tangible equity of €9.4bn. This (coupled with an 18% cost of equity and 1% growth rate) translates into our Gordon-growth based share price target of €0.50. This implies upside potential to the current share price of 25% and we rate the shares Equal-weight as we believe Eurobank is close to fully priced and that other Greek banks offer better leverage to NPE reduction and potential re-rating. However, we believe that in a bear scenario Eurobank could offer most protection.

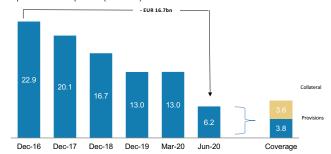
NPE reduction

Recent progress

Eurobank's NPE stock declined from €22.9bn in 4Q16 to €13bn in 1Q20, driving the NPE ratio down from 45.2% to 17.8% in the period. Currently Eurobank has the lowest NPE ratio among the Greek banks. Eurobank achieved this NPE reduction via net negative NPE flows, write-offs, collateral liquidation, as well as NPE sales and securitisation.

Exhibit 116: Eurobank reduced its NPE stock from €22.9bn in 4Q16 to €6.2bn in 2Q20

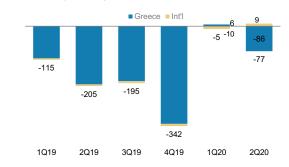
Group NPE development (EUR bn)



Source: Company data, Morgan Stanley Research

Exhibit 117: Eurobank's NPE reduction has been helped by organic reduction (net exits)

NPE formation (EUR mn)



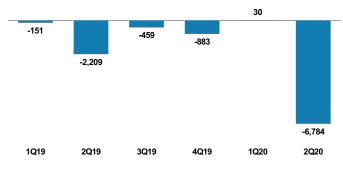
Source: Company data, Morgan Stanley Research

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Exhibit 118: In 1H20 Eurobank's Group NPE stock declined by €6.8bn...

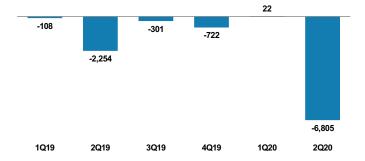
Change in NPE stock - Group (EUR mn)



Source: Company data, Morgan Stanley Research

Exhibit 119: ...with the vast majority of that represented by a decline in domestic NPE stock

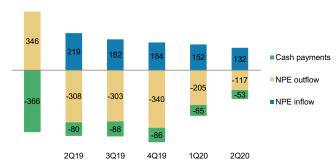
Change in NPE stock - Solo (EUR mn)



Source: Company data, Morgan Stanley Research

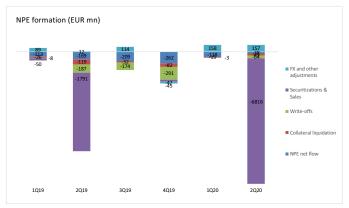
Exhibit 120: In 1H20 Eurobank's net NPE outflow exceeded its NPE inflow

NPE formation (EUR mn)



Source: Company data, Morgan Stanley Research

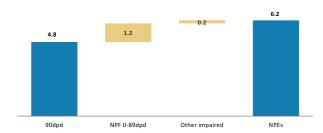
Exhibit 121: NPE sales, write-offs, liquidation, as well as negative formation drove Eurobank's NPE stock down



Source: Company data, Morgan Stanley Research

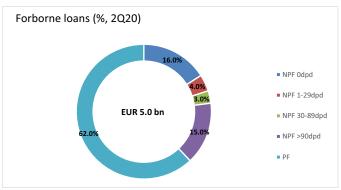
Exhibit 122: 90+ dpd loans constitute 77% of Eurobank's NPE stock

90dpd bridge to NPEs (EUR bn, 2Q20)



Source: Company data, Morgan Stanley Research

Exhibit 123: As of 1H20 Eurobank has ≤ 5.0 bn in forborne loans



Source: Company data, Morgan Stanley Research

Plans pre-COVID

Before the COVID-induced crisis, Eurobank was planning to slash its NPE stock from €13bn at YE19 to €1.7bn by YE22. This would mean a reduction in NPE ratio from 29% to 5%. A key part of the NPE reduction plan is the Cairo securitisation project. The transaction involved €7bn NPE sales and was successfully closed in early June 2020. The impact of the sale was a €1.2bn loss reflected in 2Q20 results. After Cairo,



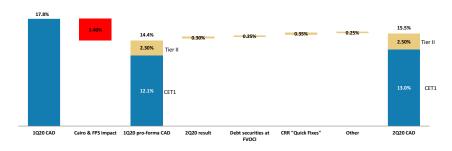
Eurobank plans further reductions by €4.3bn over 2020-2022 including another €1.7bn worth of securitisation deals and €0.4bn in NPE sales, as well as organic reduction.

Key transactions outlined

Completion of the Cairo and Europe transactions drove Eurobank's NPE ratio down to 15.6%, and NPE coverage to around 60%. The Cairo transaction's final structure was €2.4bn senior notes (guaranteed by Hellenic Asset Protection Scheme, or HAPS), €1.5bn mezzanine notes, and €3.6bn junior notes. Eurobank sold 20% of mezzanine notes in the Cairo transaction to doValue, retained 100% of senior notes and 5% of junior and mezzanine notes. The Group plans to distribute the remaining mezzanine and junior notes to the shareholders in 3Q20. Along with NPE sales, Eurobank also sold 80% of its NPL servicing subsidiary called Eurobank Financial Planning Services (FPS). After the sale, Eurobank signed a 14-year servicing agreement with FPS. Eurobank's capitalisation was affected to the tune of -340 bps: -390 from Cairo, +75 from Europe, and -25 bps in transactions costs. Eurobank has fully reflected the P&L impact of the transactions in 2Q20 results.

Exhibit 124: Total capital position has declined in 1H20 following -340bps impact of Cairo securitisation in 2Q20 and FPS carve-out in 1Q20

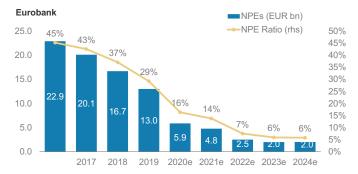
Capital position



Source: Company data, Morgan Stanley Research

Balance sheet clean-up: our forecasts

Exhibit 125: Eurobank's NPE ratio outlook: quickest Greek bank to below 5% NPE ratio in our view



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Exhibit 126: NPE dynamics forecast towards YE24

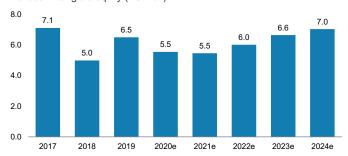
Eurobank Greece NPE 2019-2024e (EUR bn)



Source: Company data, Morgan Stanley Research estimates

Exhibit 127: Tangible equity evolution forecast

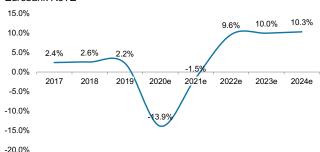
Eurobank tangible equity (EUR bn)



Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 128: RoTE

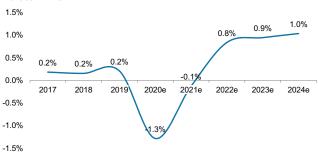
Eurobank RoTE



Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 129: ROAA

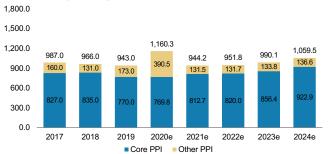




Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 130: PPI outlook

Eurobank PPI (EUR mn)



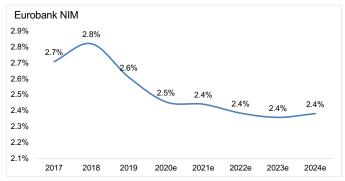
Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 131: PPI yield on assets and on equity



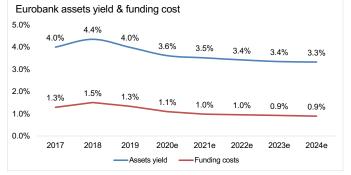


Exhibit 132: NIM is likely to decline...



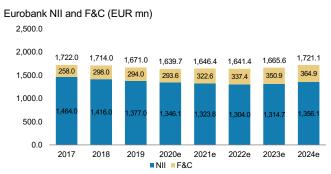
Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 133: ... driven by asset yield pressure



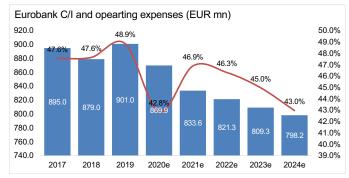
Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 134: NII still key in operating income



Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 135: Operating efficiency: we forecast broadly stable C/I ratio



Source: Company data, Morgan Stanley Research estimates (e)

What comes next: our forecasts part 2

Eurobank's own targets for profitability (and size)

Eurobank is aiming to achieve a RoTE of around 10% by 2022. The Group expects its NIM to fall to around 1.9% (vs 2.2% in 2019), with performing loan book expanding to €38.3bn by 2022 (from €31.2bn in 2019). Eurobank's target F&C yield over assets is around 80 bps (vs 52 bps in 2019). Target CIR in 2022 is 45%, improvement from 48.9% in 2019. In terms of CoR, Eurobank targets 75 bps in 2022 at 5% NPE ratio, compared to 170 bps and 29.2% in 2019, respectively.

Our forecasts for sustainable RoE

Studying underlying profitability trends, we believe that by 2025 Eurobank could start earning a sustainable RoTE of about 9% on its tangible equity of €9.4bn.



Exhibit 136: Eurobank RoE

<u>Eurobank</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	2020e	2021e	2022e	2023e	2024e	long term
N 11 N A	0.740/	0.000/	0.040/	0.450/	0.440/	0.000/	0.000/	0.000/	0.050/
NIM	2.71%	2.82%	2.61%	2.45%	2.44%	2.38%	2.36%	2.38%	2.35%
IEA / TA	85.52%	85.11%	85.97%	84.03%	82.64%	83.03%	83.38%	83.41%	83.00%
F&C yield	0.41%	0.51%	0.48%	0.45%	0.49%	0.51%	0.52%	0.53%	0.60%
Other income yield	0.25%	0.22%	0.28%	0.60%	0.20%	0.20%	0.20%	0.20%	0.20%
C/I	47.56%	47.64%	48.86%	42.85%	46.89%	46.32%	44.97%	42.97%	43.00%
CoR (on net loans)	1.97%	1.85%	1.70%	0.71%	1.97%	-0.78%	-0.02%	0.20%	0.70%
Net loans / assets	60.23%	62.15%	59.96%	53.54%	49.21%	48.83%	48.72%	48.88%	52.00%
Tax rate	2.58%	25.85%	12.50%	24.22%	29.00%	29.00%	29.00%	29.00%	29.00%
Equity / assets	11.50%	10.32%	9.53%	9.48%	8.63%	8.96%	9.71%	10.25%	10.00%
RoE DuPont	3.18%	3.48%	4.77%	11.16%	3.86%	14.47%	10.89%	10.08%	8.55%



Risk Reward – Eurobank Ergasias SA (EURBr.AT)

Most progress on the cleanup, closest to sustainable RoE

PRICE TARGET €0.50

PT weighted 100% base case on target P/BV derived from Gordon Growth model, in which our base case COE = 20%, sustainable RoTE of 8.5%, earnings growth = 2%.



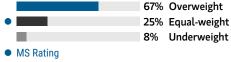
RISK REWARD CHART



EQUAL-WEIGHT THESIS

- In our base case we expect Eurobank to reduce its domestic NPE ratio to 5.8% by 2022e and then by 4.2% by 2023e.
- Capital ratios to remain above regulatory requirements with the Basel III CET1, IFRS9phased in ratio staying above 13.5% despite capital consumption during the remaining €4.5bn securitisation we have in our base case.
- Eurobank trading at 0.3x 2020e book seems to fully price in the benefits from balance sheet de-risking.

Consensus Rating Distribution



Source: Thomson Reuters, Morgan Stanley Research

Risk Reward Themes

Earnings Quality: Positive

View descriptions of Risk Rewards Themes, here

Source: Thomson Reuters, Morgan Stanley Research

BULL CASE

€0.70

BASE CASE

€0.50

BEAR CASE

€0.30

0.5x Bull Case 2021e P/B

Sharper macro recovery allows the bank to speed up organic NPE reduction efforts. We apply a 9.5% RoTE to our 2024e valuation.

0.3x Base Case 2021e P/B

Eurobank's transformation plan is completed successfully but with slight delays vs original plan with more large transactions in the near future. We apply an 8.5% RoTE to our 2024e valuation.

0.2x Bear Case 2021e P/B

Eurobank is unable to rely on further securitisations to speed up NPE reduction. Rates of recovery and default improve somewhat but cost of risk still anchored at a high level in line with high NPE burdens. We apply a 6.5% RoTE to our 2024e valuation.

Risk Reward – Eurobank Ergasias SA (EURBr.AT)

KEY EARNINGS INPUTS

Drivers	2019	2020e	2021e	2022e
Reported EPS growth (%)	(51.3)	313.0	NA	NA
Gross loan growth (%)	(1.3)	(19.1)	(3.6)	(3.4)
CoR (%)	1.4	0.6	1.8	(0.7)
Tier 1 ratio (%)	16.7	13.6	13.5	14.7
Net interest margin (%)	2.6	2.5	2.4	2.4

INVESTMENT DRIVERS

NPE reduction, improving cost of risk

GLOBAL REVENUE EXPOSURE



Source: Morgan Stanley Research Estimate View explanation of regional hierarchies, <u>here</u>

MS ALPHA MODELS

2/5 3 Month Most Horizon

Source: Thomson Reuters, FactSet, Morgan Stanley Research; 1 is the highest favored Quintile and 5 is the least favored Quintile

RISKS TO PT/RATING

RISKS TO UPSIDE

 Faster than expected GDP growth feeds through to a marked increase in successful NPE restructurings, allowing banks to accelerate NPE reduction without the need to dispose/sell/securitise NPEs.

RISKS TO DOWNSIDE

 Early stage (and therefore still fragile) recovery in macro environment is vulnerable to external shocks.

OWNERSHIP POSITIONING



Source: Morgan Stanley Prime Brokerage. Includes certain hedge fund exposures held with MSPB. Information may be inconsistent with or may not reflect broader market trends. Long/Short Ratio = Long Exposure / Short exposure. Sector % of Total Net Exposure = (For a particular sector: Long Exposure - Short Exposure) / (Across all sectors: Long Exposure - Short Exposure).

MS ESTIMATES VS. CONSENSUS



Source: Thomson Reuters, Morgan Stanley Research

Summary financials

Exhibit 137: Eurobank: Financial Summary

Eurobank: Finar	iciai S	umn	nary								F	RICE	0.4
21/09/2020													
Income Statement							Ratio Analysis						
EUR in millions, year-end Dec	FY17	FY18	FY19	FY20E	FY21E	FY22E	Per Share Data	FY17	FY18	FY19	FY20E	FY21E	FY2
Net interest income	1,464	1,416	1,377	1,346	1,324	1,304	EPS reported	0.08	0.07	0.03	-0.23	-0.02	0.
% YoY change	0%	-3%	-3%	-2%	-2%	-1%	% YoY change	-21%	-11%	-51%	-749%	na	
Fee & commission income	258	298	294	294	323	337	DPS	0.00	0.00	0.00	0.00	0.00	0.
% YoY change	16%	16%	-1%	0%	10%	5%	% YoY change	nm	nm	nm	nm	nm	
Trading revenues	150	133	118	147	99	99	Dividend yield	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
% YoY change	1%	-11%	-11%	25%	-33%	0%	Payout ratio	0%	0%	0%	0%	0%	(
Other non interest income	10	-2	55	243	33	33	TBV per share	3.25	2.28	1.75	1.50	1.47	1.
% YoY change	-86%	-120%	nm	342%	-86%	0%	Shares o/s (common)	2,184	2,185	3,706	3,707	3,707	3,7
Total operating revenues	1,882	1,845	1,844	2,030	1,778	1,773	Shares o/s (pref)	346	0	0	0	0	
% YoY change	-1%	-2%	0%	10%	-12%	0%							
Staff costs	-506	-487	-481	-577	-423	-423	Valuation metrics						
% YoY change	1%	-4%	-1%	20%	-27%	0%	P/E	5.0x	5.6x	11.5x	nm	nm	2
Other expenses	-389	-392	-420	-293	-410	-398	P/TBV	0.12x	0.18x	0.23x	0.27x	0.27x	0.2
% YoY change	-3%	1%	7%	-30%	40%	-3%							
Total expenses	-895	-879	-901	-870	-834	-821	Profitability						
% YoY change	-1%	-2%	3%	-3%	-4%	-1%	RoATE	2.4%	2.6%	2.2%	-13.9%	-1.5%	9.6
Pre-provision operating profit	987	966	943	1,160	944	952	RoAA	0.18%	0.15%	0.21%	-1.28%	-0.13%	0.8
% YoY change	-2%	-2%	-2%	23%	-19%	1%	RoRWA	0.30%	0.24%	0.32%	-2.01%	-0.20%	1.3
Loan loss provisions	-750	-680	-624	-249	-636	251	NIM (NII / AIEA)	2.81%	2.93%	2.72%	2.57%	2.56%	2.50
Other provisions	-43	-000	-71	-11	0	0	Total rev / average assets	3.0%	3.1%	3.0%	3.1%	2.7%	2.7
Other non recurrent pre-tax	-13	-62	-88	-1.520	-426	-426	Total rev / RWAs	4.9%	4.7%	4.5%	4.8%	4.3%	4.2
Pretax profit	181	232	160	-620	-118	777	NII / tot revenues	78%	77%	75%	66%	74%	74
Tax	-5	-76	-31	-218	-116	-225	Fees / tot revenues	14%	16%	16%	14%	18%	19
Tues.	-							,.	7%	6%			
% Tax rate	3%	33%	19% -2	-35%	29%	29% 0	Trading / tot revenues	8%	1%	6%	7%	6%	6
Discontinued ops + minorities	-61	-65		0	0								
Reported net income	115	91	127	-838	-84	552	Efficiency	4007	100/	1007	4007	47907	
Adj net income from cont. ops	186	206	199	378	-84	552	Cost / income Cost / assets	48% 1.5%	48% 1.5%	49% 1.4%	43% 1.3%	47% 1.3%	46 1,2
Balance sheet		_	_		-		Cost / RWAs	2.3%	2.3%	2.2%	2.1%	2.0%	2.0
EUR in millions, year-end Dec	FY17	FY18	FY19	FY20E	FY21E	FY22E							
ASSETS							Balance Sheet Gearing						
Gross customer loans	47.242	45.032	44.464	35.955	34.656	33,462	Loan / deposit	140%	115%	99%	80%	75%	72
% YoY change	-7%	-5%	-1%	-19%	-4%	-3%	Securities / assets	13%	13%	12%	18%	19%	19
Loan loss reserves	-10,134	-8,800	-7,099	-3,435	-2,573	-1,226	Loan / assets	79%	78%	69%	55%	53%	5
Securities	7.654	7.815	8.061	11.940	12.148	12.839	Deposits / funding	93%	89%	90%	90%	91%	90
Other interest earnings assets	3,647	4,231	7.686	7.304	7.405	7,576	Debt / funding	7%	11%	10%	10%	9%	
% YoY change	-14%	16%	82%	-5%	1%	2%	Door landing	1 70	1170	1070	1070	370	,
Average interest earnings assets	52.146	48,344	50,695	52.438	51,700	52.142	Asset Quality						
	- 1	353		. ,	616	598	NPEs	00.400	40.700	40.000	£ 070	4.772	2.5
Goodwill and intangibles	390		746	696				20,100	16,700	13,000	5,870	,	
Other assets	11,230	9,353	10,903	13,308	13,265	12,962	% YoY change	nm	-17%	-22%	-55%	-19%	-47
Total assets	60,029	57,984	64,761	65,768	65,517	66,209	NPEs/gross loans	43%	37%	29%	16%	14%	
LIABILITIES							Loan loss reserves/NPEs	50%	53%	55%	59%	54%	49
Customer deposits	33,843	39,083	44,841	44,678	46,262	46,725	Cost of risk	1.53%	1.47%	1.39%	0.62%	1.80%	-0.74
% YoY change	-1%	15%	15%	0%	4%	1%							
Due to banks	13,991	8,426	6,922	9,734	8,979	8,799	Capital (Phased-in IFRS9)						
Long term funding	2,402	4,600	5,132	4,929	4,332	4,159	B3 CT1	6,887	5,509	6,917	5,707	5,624	6,
Average interest bearing liabs	54,248	51,173	54,502	58,118	59,457	59,628	% YoY change	2%	-20%	26%	-17%	-1%	1
Other liabilities	2,643	844	1,199	720	321	351	RWAs	38,387	38,849	41,407	41,932	41,621	42,0
Shareholders' equity	7,150	5,031	6,667	5,707	5,624	6,175	% YoY change	0%	1%	7%	1%	-1%	
Total liabilities	60.029	57.984	64,761	65,768	65.517	66,209	B3 CT1 Ratio	17.9%	14.2%	16.7%	13.6%	13.5%	14.7

Source: Company data, Morgan Stanley Research estimates (e)

Eurobank: banking group profile

Eurobank is a Greek universal bank operating mainly in Greece, with subsidiaries in Cyprus, Bulgaria, and Serbia, as well as operations in the UK and Luxembourg. As of 1Q20, 82.9% of Eurobank's gross loan book was concentrated in Greece. Based on 1Q20 data, the Group has 13,346 employees, 8,476 of which are based in Greece. At YE19 the Group had 622 branches globally, 350 of them in Greece.

Eurobank's shares are traded on the Athens Stock Exchange with a 68% free float. Based on March 2020 data, 31.3% of its shares are owned by Fairfax Financial Holdings, 1.4% by the HFSF, 55.4% by foreign institutional investors, 5% by domestic institutional investors, and 7% by non-institutional investors.

As of 1Q20, Eurobank's total assets stood at €65.8bn. The gross loan portfolio was

€45bn, deposits stood at €45.3bn. Business loans constituted 60.4% of Eurobank's gross loan book at quarter-end 1Q20, vs 39.6% for retail loans. Concentration of the bank's large corporate portfolio at YE19 was as follows: commerce and services (38.8%), manufacturing (19.2%), construction (12.3%), shipping (9.0%), and tourism (8.9%). As of 1Q20, 78.6% of retail loans were mortgages, 21.4% were consumer loans.

At the end of 1Q20, Eurobank had a 20.4% market share by gross loans in Greece, and a 16.5% market share by deposits.

Eurobank's NII for FY19 amounted to €1.38bn, giving it a NIM of 2.24%. Weighted average yield on performing loans was 3.83%, weighted average deposit cost was 0.27%. Net F&C income came at €294m, giving a 0.48% yield over total assets. Main sources of F&C income were: network and other activities (€148m or 50.3% of net F&C), lending related activities (€69m or 23.5%), and mutual funds and asset management (€55m or 18.7%). Total revenue for FY19 came at €1.84bn, compared to €1.76bn for FY15 and €1.91bn for FY16.

Compared to its peers, Eurobank had a relatively low NPE ratio, having reduced from 43.8% as of YE15 to 29.2% by YE19. In June 2020 the Group announced finalisation of its €7.5bn NPE securitisation program, project Cairo, which resulted in an NPE ratio of 15.6% and NPE coverage of ca. 60%. Additionally, Eurobank sold 80% of its NPE servicing arm called Eurobank FPS.

NBG

Investment thesis

NBG is trading at 0.2x 2020e P/B, below Eurobank (0.3x) and we believe the market is under-appreciating how close NBG is to follow in Eurobank's footsteps on the NPE reduction path. Despite a higher NPE ratio, NBG could get very close by completing €6bn worth of NPE securitisation deals the bank is planning to close in 1H21. We forecast NBG NPE ratio to decrease to 17% by YE21 and 4% by YE24. The full cleanup, on our numbers, would come at a significant cost of €2bn (additional provisioning and losses on sales of junior tranches), which would be compensated by pre-provisioning profit (PPI) over the period as well as some capital relief from securitisation under HAPS.

Studying underlying profitability trends, we believe that by 2025 NBG could start earning a sustainable RoTE of about 9% on its tangible equity of €6.1bn. This (coupled with an 18% cost of equity and 1% growth rate) translates into our Gordon-growth based share price target of €1.70. This implies upside potential of 44% and coupled with our confidence in NBG's ability to drastically reduce NPEs, makes us Overweight NBG shares.

NPE reduction

Recent progress

NBG has reduced its NPE stock by 60% from €27bn in 3Q15 to €10.7bn in 1Q20, while its NPE ratio was down from 35% to 30.9% in the same period. NBG has achieved net negative NPE formation since 2017, with liquidation, curings, and NPE outflows exceeding gross NPE inflows. In 2019 NBG accelerated its downward NPE trend by selling €3.1bn NPE stock.

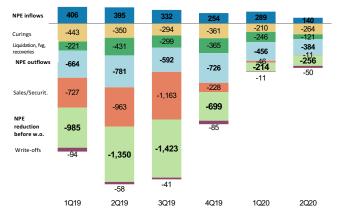
Exhibit 138: NBG reduced its NPE stock from €27bn as of 3Q15 to EUR 10.4bn as of 2O20



Source: Company data, Morgan Stanley Research

Exhibit 139: NBG has been able to reduce its NPE stock via net negative inflows, write-offs, and sales

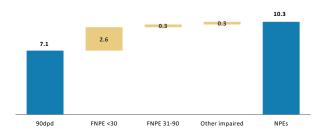
NPE balance change (EUR mn)



Source: Company data, Morgan Stanley Research

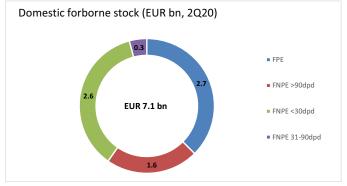
Exhibit 140: 69% of NBG's domestic NPE stock is 90+dpd loans

Domestic 90dpd - NPE bridge (EUR bn, 2Q20)



Source: Company data, Morgan Stanley Research

Exhibit 141: NBG's stock of domestic forborne loans was €7.1bn in 2Q20



Source: Company data, Morgan Stanley Research

Plans pre-COVID

NBG has relied on NPE sales as a key non-organic way to reduce NPE exposure, having sold a total of €5.7bn NPEs by June 2020. Moreover, NBG is planning to close on two other sales (outside Greece) totalling €0.5bn between Project Marina (Cyprus) and Project Danube (Romania). After that, though, NBG is planning to turn to securitisation.

Before the COVID-induced crisis, NBG was targeting an NPE reduction from €10.6bn in YE19 to €1.7bn by YE22, with 50% of the reduction planned to be organic. This translates to a target NPE ratio of c. 5%. NBG was also targeting Stage 3 coverage ratio of more than 50% by YE22. Currently, NBG is planning to securitise more than €6bn NPEs (2/3 of the current stock) after the market conditions recover. The bank expects to achieve it in one single transaction that would close in 1H21.

Balance sheet clean-up: our forecasts

Exhibit 142: NBG could reduce NPEs to 4% of gross loans by YE24

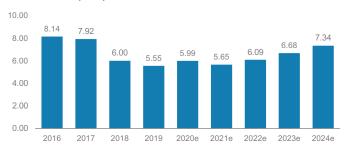


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FOUNDATION

Exhibit 143: TBVPS evolution

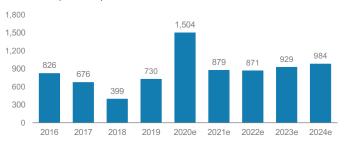




Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 144: PPI evolution

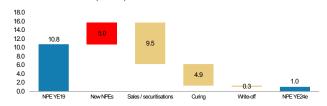
NBG - PPI (EUR mn)



Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 145: NPE dynamics forecast towards YE24

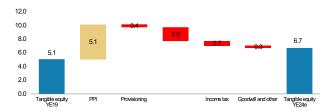
NBG Greece NPE 2019-2024e (EUR bn)



Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 146: Tangible equity evolution forecast

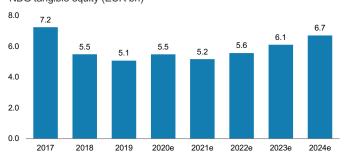
NBG tangible equity 2019-2024e (EUR bn)



Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 147: Tangible equity

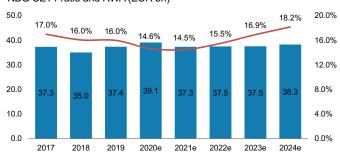
NBG tangible equity (EUR bn)



Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 148: CET1

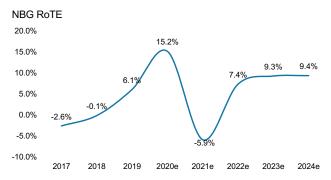
NBG CET1 ratio and RWA (EUR bn)



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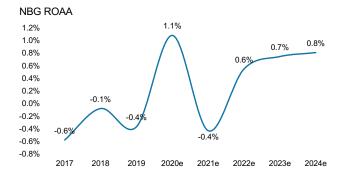
FOUNDATION

Exhibit 149: RoTE



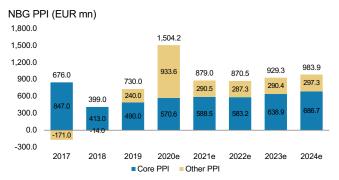
Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 150: ROAA



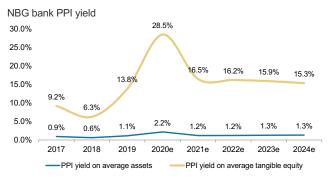
Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 151: PPI outlook



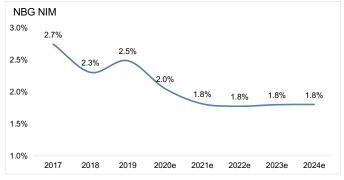
Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 152: PPI yield on assets and on equity



Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 153: NIM is likely to decline...



Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 154: ... driven by asset yield pressure

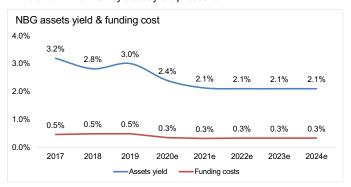
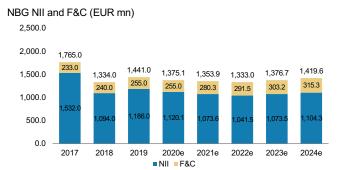


Exhibit 155: NII still key in operating income



Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 156: Operating efficiency: we forecast broadly stable C/I ratio



Source: Company data, Morgan Stanley Research estimates (e)

What comes next: our forecasts part 2

NBG's own targets for profitability (and size)

Following its NPE cleanup plan, NBG is targeting around 11% RoE by 2022. The bank is aiming to improve its cost efficiency by achieving a CIR of around 45% by 2022 (vs 57% for 9M19).

Our forecasts for sustainable RoE

Exhibit 157: NBG RoE

NBG	2017	2018	2019	2020e	2021e	2022e	2023e	2024e	long term
NIM	2.74%	2.30%	2.48%	2.05%	1.81%	1.77%	1.80%	1.80%	1.80%
IEA / TA	77.91%	73.16%	73.81%	79.25%	81.35%	81.73%	82.22%	82.46%	83.00%
F&C yield	0.33%	0.37%	0.39%	0.37%	0.38%	0.41%	0.42%	0.42%	0.50%
Other income yield	-0.24%	-0.02%	0.37%	1.35%	0.40%	0.40%	0.40%	0.40%	0.40%
C/I	57.59%	69.77%	56.57%	34.85%	46.55%	46.28%	44.26%	42.69%	42.00%
CoR (on net loans)	2.03%	0.92%	1.15%	1.73%	0.14%	-0.41%	-0.17%	0.11%	0.70%
Net loans / assets	55.54%	52.42%	45.86%	42.77%	39.54%	38.56%	38.29%	37.98%	38.00%
Tax rate	-20.61%	68.53%	12.17%	19.42%	29.00%	29.00%	29.00%	29.00%	29.00%
Equity / assets	10.44%	10.02%	8.44%	7.97%	7.64%	7.80%	8.37%	8.94%	8.40%
RoE DuPont	-2.11%	0.42%	6.24%	14.57%	10.70%	12.45%	11.42%	10.19%	9.49%



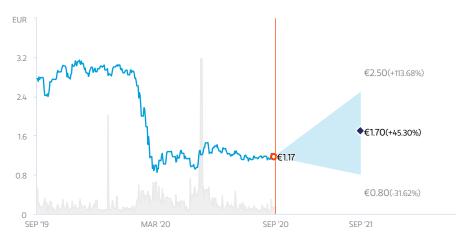
Risk Reward – National Bank of Greece (NBGr.AT)

Bull case optionality

PRICE TARGET €1.70

PT weighted 100% base case on target P/BV derived from Gordon Growth model, in which our base case COE = 20%, sustainable RoTE of 9.5%, earnings growth = 2%.

RISK REWARD CHART



Key: — Historical Stock Performance ○ Current Stock Price ◆ Price Target

Source: Thomson Reuters, Morgan Stanley Research

OVERWEIGHT THESIS

- In our base case we expect NBG to reduce gross domestic NPEs to €1.6bn by 2023e (vs €10.1bn at YE19).
- We expect capital ratios to remain above regulatory requirements with the Basel III CET1, IFRS9-phased in ratio at 14.5% by 2021e.
- NBG is trading at 0.2x 2020e book not fully pricing the benefits from balance sheet de-risking in our base case. We rate NBG Overweight and highlight its superior coverage ratio (55% 2020 vs 47-54% at peers) as improving it's ability to work out NPEs organically.

Risk Reward Themes

Earnings Quality: Negative

View descriptions of Risk Rewards Themes, here

BULL CASE

€2.50

BASE CASE

€1.70

BEAR CASE

€0.80

0.4x Bull Case 2021e P/B

Sharper macro recovery allows the bank to speed up organic NPE reduction efforts with less cost. We apply a 10.5% RoTE to our 2024e valuation.

0.3x Base Case 2021e P/B

NBG is able to undergo a transformational balance sheet restructuring. We apply a 9.5% RoTE to our 2024e valuation.

0.2x Bear Case 2021e P/B

NBG is unable to speed up NPE reduction. Rates of recovery and default improve somewhat but cost of risk still anchored at a high level in-line with high NPE burdens. We apply a 6.5% RoTE to our 2024e valuation.



Risk Reward - National Bank of Greece (NBGr.AT)

KEY EARNINGS INPUTS

Drivers	2019	2020e	2021e	2022e
Reported EPS growth (%)	NA	186.4	(82.8)	NA
Gross loan growth (%)	(11.8)	1.8	(14.3)	(4.2)
CoR (%)	1.0	1.4	0.1	(0.4)
Tier 1 ratio (%)	16.0	14.6	14.5	15.5
Net interest margin (%)	2.5	2.0	1.8	1.8

INVESTMENT DRIVERS

Improving ability to work out NPE organically

GLOBAL REVENUE EXPOSURE



Source: Morgan Stanley Research Estimate View explanation of regional hierarchies, <u>here</u>

RISKS TO PT/RATING

RISKS TO UPSIDE

 Faster than expected GDP growth feeds through to a marked increase in successful NPE restructurings, allowing banks to accelerate NPE reduction without the need to dispose/sell NPEs.

RISKS TO DOWNSIDE

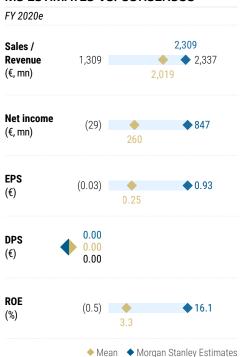
 Early stage (and therefore still fragile) recovery in macro environment is vulnerable to external shocks.

OWNERSHIP POSITIONING



Source: Morgan Stanley Prime Brokerage. Includes certain hedge fund exposures held with MSPB. Information may be inconsistent with or may not reflect broader market trends. Long/Short Ratio = Long Exposure / Short exposure. Sector % of Total Net Exposure = (For a particular sector: Long Exposure - Short Exposure) / (Across all sectors: Long Exposure - Short Exposure).

MS ESTIMATES VS. CONSENSUS



Source: Thomson Reuters, Morgan Stanley Research

Summary financials

Exhibit 158: National Bank of Greece: Financial Summary

NBG: Financial S	Summ	ary									I	PRICE	1.18
Income Statement							Ratio Analysis						
EUR in millions, year-end Dec	FY17	FY18	FY19	FY20E	FY21E	FY22E	Per Share Data	FY17	FY18	FY19	FY20E	FY21E	FY22E
Net interest income	1,532	1,094	1,186	1,120	1,074	1,041	EPS reported	-0.17	0.03	0.37	0.88	-0.34	0.43
% YoY change	-7%	-29%	8%	-6%	-4%	-3%	% YoY change	-758%	na	1145%	135%	-139%	na
Fee & commission income	233	240	255	255	280	292	DPS	0.00	0.00	0.00	0.00	0.00	0.00
% YoY change	32%	3%	6%	0%	10%	4%	% YoY change	nm	nm	nm	nm	nm	nm
Trading revenues	-124	17	181	403	218	216	Dividend yield	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
% YoY change	1%	-114%	965%	122%	-46%	-1%	Payout ratio	0%	0%	0%	0%	0%	0%
Other non interest income	-47	-31	59	531	73	72	TBV per share	-0.17	0.03	0.37	0.88	-0.34	0.43
% YoY change	-136%	-34%	nm	800%	-86%	-1%	Shares o/s (common)	915	915	915	915	915	915
Total operating revenues	1,594	1,320	1,681	2,309	1,644	1,620	Shares o/s (pref)						
% YoY change	-13%	-17%	27%	37%	-29%	-1%							
Staff costs	-562	-562	-602	-475	-449	-444	Valuation metrics						
% YoY change	-13%	0%	7%	-21%	-6%	-1%	P/E	nm	39.4x	3.2x	1.3x	nm	2.7x
Other expenses	-356	-359	-349	-330	-317	-306	P/TBV	-6.83x	39.42x	3.17x	1.35x	-3.46x	2.73x
% YoY change	-2%	1%	-3%	-6%	-4%	-3%							
Total expenses	-918	-921	-951	-805	-765	-750	Profitability						
% YoY change	-9%	0%	3%	-15%	-5%	-2%	RoATE	-2.6%	-0.1%	6.1%	15.2%	-5.9%	7.4%
Pre-provision operating profit	676	399	730	1,504	879	871	RoAA	-0.6%	-0.1%	-0.4%	1.1%	-0.4%	0.6%
% YoY change	-18%	-41%	83%	106%	-42%	-1%	RoRWA	-1.1%	-0.1%	-0.7%	2.0%	-0.8%	1.1%
Loan loss provisions	-785	-298	-365	-491	-41	112	NIM (NII / AIEA)	2.74%	2.30%	2.48%	2.05%	1.81%	1.77%
Other provisions	-22	-14	23	-19	0	0	Total rev / average assets	2.2%	2.0%	2.6%	3.3%	2.3%	2.3%
Other non recurrent pre-tax	0	-78	-118	-94	-1,277	-426	Total rev / RWAs	4.3%	3.8%	4.5%	5.9%	4.4%	4.3%
Pretax profit	-131	9	270	900	-439	557	NII / tot revenues	96%	83%	71%	49%	65%	64%
Tax	-27	-37	-13	-166	127	-162	Fees / tot revenues	15%	18%	15%	11%	17%	18%
% Tax rate	-21%	411%	5%	18%	29%	29%	Trading / tot revenues	-8%	1%	11%	17%	13%	13%
Discontinued ops + minorities	-285	-56	-512	11	0	0	· ·						
Reported net income	-443	-84	-255	746	-312	396	Efficiency						
Adj net income from cont. ops	-158	27	341	801	-312	396	Cost / income	58%	70%	57%	35%	47%	46%
		_	_		_	_	Cost / assets	1.4%	1.4%	1.5%	1.1%	1.1%	1.0%
Balance sheet							Cost / RWAs	2.5%	2.6%	2.5%	2.1%	2.0%	2.0%
EUR in millions, year-end Dec	FY17	FY18	FY19	FY20E	FY21E	FY22E							
ASSETS							Balance Sheet Gearing						
Gross customer loans	48,180	39,600	34,938	35,564	30,469	29,178	Loan / deposit	120%	92%	80%	79%	67%	64%
% YoY change	-9%	-18%	-12%	2%	-14%	-4%	Securities / assets	12%	13%	21%	29%	32%	33%
Loan loss reserves	-10,239	-9,466	-5,757	-5,739	-2,697	-1,547	Loan / assets	74%	61%	54%	48%	42%	41%
Securities	7,461	8,231	13,722	21,081	22,952	23,383	Deposits / funding	97%	97%	97%	97%	97%	97%
Other interest earnings assets	3,514	7,725	6,476	9,045	7,829	7,852	Debt / funding	3%	3%	3%	3%	3%	3%
% YoY change	-6%	120%	-16%	40%	-13%	0%	· ·						
Average interest earnings assets	55,826	47,503	47,735	54,665	59,252	58,709	Asset Quality						
Goodwill and intangibles	1,086	1,046	1,715	1,603	1,419	1,377	NPEs	21,247	16,200	10,936	10,178	5,049	2,732
Other assets	14,766	17,959	13,154	12,153	11,989	11,469	% YoY change	nm	-24%	-32%	-7%	-50%	-46%
Total assets	64,768	65,095	64,248	73,709	71,961	71,712	NPEs/gross loans	44%	41%	31%	29%	17%	9%
LIABILITIES	,	, , , , , ,	,	.,	,	,	Loan loss reserves/NPEs	48%	58%	53%	56%	53%	57%
Customer deposits	40,265	43,027	43,648	44,942	45,303	45,529	Cost of risk	1.55%	0.68%	0.98%	1.39%	0.12%	-0.38%
% YoY change	0%	7%	1%	3%	1%	0%							
Due to banks	7,341	7,667	4,449	12,719	12,341	12,095	Capital (Phased-in IFRS9)						
Long term funding	1,197	1,414	1,370	1,386	1,386	1,386	B3 CT1	6,333	5,619	5,966	5,720	5,408	5,803
Average interest bearing liabs	54,062	50,456	50,788	54,257	59,038	59,020	% YoY change	-5%	-11%	6%	-4%	-5%	7%
Other liabilities	8,586	7,349	9,504	8,942	7,523	6,899	RWAs	37,334	35,015	37,354	39,099	37,338	37,474
Shareholders' equity	7,379	5,638	5,277	5,720	5,408	5,803	% YoY change	-9%	-6%	7%	5%	-5%	0%
Total liabilities	64,768	65,095	64,248	73,709	71,961	71,712	B3 CT1 Ratio	17.0%	16.0%	16.0%	14.6%	14.5%	15.5%

NBG: banking group profile

National Bank of Greece (NBG) is a Greek universal bank with operations in Greece, Cyprus, Macedonia, Romania, Malta, Egypt, Luxembourg and the UK. Based on 1Q20 data, the bank has 9,300 employees, 8,200 of which are based in Greece, as well as 389 branches in Greece.

In December 2019 the bank reported that it had 5.3m active retail customers in Greece, out of 8.3m bankable population nationwide. In April 2020 NBG's digital platform showed a MAU figure of 1.4m, and 12-month active users figure of 1.66m.

Of the 4 largest Greek banks, NBG is the one with the highest HFSF ownership, at 40.4%. The remaining shares constitute free float and trade on the Athens Stock Exchange.

As of 1Q20 total assets of NBG were €69.2bn, gross loan portfolio amounted to €34.9bn, deposits amounted to €45.4bn. Retail loans made up 48.9% of NBG's gross loans, with 74/26 mortgage/consumer breakdown, while business loans amounted to 51.1% of total gross loans. Industry concentration of NBG's corporate loan book was as follows: manufacturing (16.3%), shipping (12.9%), trade (11.0%), construction and public works (11.0%), and energy and waste management (10.8%). As of 1Q20, 75% of NBG's deposits were from individuals.

At the end of 1Q20, NBG had an 18.4% market share by gross loans in Greece, and a 22.1% market share by deposits.

NBG earned €1.2bn in NII in FY19, giving it a NIM of 2.7%. Its loan book yielded 3.7% in FY19, while the deposit cost was 0.37%. The bank earned €355m in net F&C in FY19, which translates into a F&C yield on assets of 0.39%. Around 51% of NBG's fees in Greece were from the retail segment, 36% from the wholesale segment, and 14% from fund management, brokerage, and other activities. In terms of product breakdown, in FY19 in Greece the bank earned €38m (31.1% of net F&C) from intermediation and other activities, €28m (23% of net F&C) from cards, €22m (18% of net F&C) from digital channels, and €19m (15.6% of net F&C) from lending fees. Total revenue for FY19 came at €1.68bn, down from €2.06bn for FY14.

NBG's NPE ratio was 30.9% as of 1Q20, down from 44% at YE16. NPE coverage improved slightly from 74% at YE16 to 79.3% at 1Q20. The NPE reduction was a result of negative NPE formation, write-offs, and sales/securitisation. NBG sold €3.08bn of NPEs in 2019, almost 10x more than in 2018. In 2021-2022 the bank plans to securitise large amount of mortgages.

Piraeus Bank

Investment thesis

Piraeus Bank is trading at 0.1x 2020e P/B, below peers Eurobank (0.3x) and NBG (0.2x), which we attribute to much higher NPE ratio of 49% in 2Q20. While the latter is similar to Alpha Bank, we believe Piraeus Bank would have more capital and coverage constraints on its path to drive its NPE ratio down. We estimate Piraeus will be the slowest among Greek banks and could decrease NPEs only to 8.5% of total loans in Greece standalone by YE24, which would still be a significant achievement. On our numbers, this would come at a significant cost of €4bn (additional provisioning and losses on sales of junior tranches), which would be compensated by pre-provisioning profit over the period as well as some capital relief from securitization under HAPS.

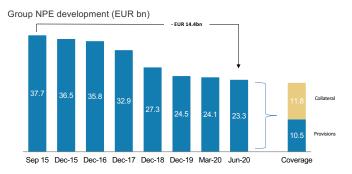
Studying underlying profitability trends, we believe that by 2025 Piraeus Bank could start earning an RoTE of about 10% on its tangible equity of €7.6bn, however, a comparatively high NPE ratio would make it less sustainable, in our view. This (coupled with an 18% cost of equity and 1% growth rate) translates into our Gordon-growth based share price target of €1.35. This implies upside of 14% and we believe that risks and potential rewards are balanced at the current price. Equal-weight.

NPE reduction

Recent progress

Piraeus Bank has been able to cut its NPEs 36% from the €37.7bn in 3Q15 to €24.1bn in 1Q20, yet its NPE ratio remains very high at 49.6% of total gross loans, the highest among the four Greek banks. Recent NPE formation has been moderate and was in fact negative on net basis, with curings and collections exceeding the total of new defaults and re-defaults.

Exhibit 159: Piraeus cut its NPEs from €37.7bn as of 3Q15 to €23.3bn as of 2Q20



Source: Company data, Morgan Stanley Research

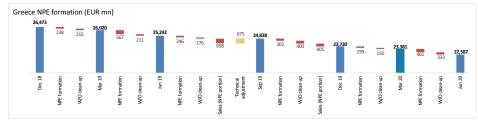
Exhibit 160: Piraeus has been able to cut its NPEs in Greece via negative net NPE formation, as well as write-offs and sales

Bank NPE movement (EUR bn)



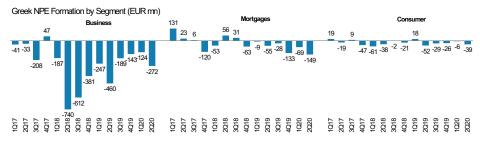
Source: Company data, Morgan Stanley Research

Exhibit 161: From 4Q18 to 1Q20 Piraeus reduced its NPE stock in Greece by 14.7% to €22.6bn



Source: Company data, Morgan Stanley Research

Exhibit 162: Net NPE formation in Greece has been negative over the past 3 years in all segments



Source: Company data, Morgan Stanley Research

Plans pre-COVID

In early February, Piraeus announced its strategy update including a revised balance sheet cleanup plan, which at the time was not accounting for the pandemic that came to Europe later. According to the February NPE reduction plan, Piraeus was aiming to reduce its NPEs from €24bn at YE19 to €13bn by YE20, €10bn by YE21 and below €8bn by YE22. Despite a budgeted significant NPE reduction in nominal terms (by at least 67%), end-22 NPE ratio was still projected to be elevated at around 15% at YE22 according to Piraeus.

NPE reduction plan was budgeting an inflow of €4bn new NPEs over the 2020-2022 period with larger curings and other organic reduction driving outflows of €13bn and sales driving an €8bn (c.€2bn Phoenix and €5bn Vega) reduction in NPEs.

Key planned transactions outlined

Exhibit 163: Piraeus has two securitisation transactions underway, namely Phoenix and Vega, with a combined volume of €7bn

Piraeus Bank securitisation projects	Piraeus Bank securitisation	orojects
Transaction name	Phoenix	Vega
Volume, EUR bn	~2.0	~5.0
Portfolio	Residential mortgage	Commercial and residential
# of borrowers	22,000	18,000
# of loans	58,000	53,000
Share of denounced portfolios	67%	70%
Senior notes, EUR bn	~0.96	~1.4
Senior notes retention target	100%	100%
Mezzanine and junior notes retention target	5%	5%
Source: Company data, Morgan Stanley Research		

How COVID can impact NPE formation and cleanup

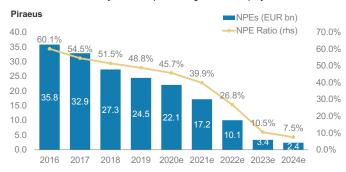
In 1Q20, the bank created €324mn worth of COVID-19-related impairments by incorporating revised macro estimates.



Moratoria data: as of late May, €6.8bn of retail loans were moratoria-eligible, €1.8bn or 27% of those loans were under moratoria. On the corporate and SME side, a total of €13.4bn were moratoria eligible. Of these borrowers, €1.2bn of SMEs and €0.9 of corporate loans applied and were approved for moratoria by late May. Loans under moratoria represent the biggest source of potential NPE inflows in 2021.

Balance sheet clean-up: our forecasts part 1

Exhibit 164: ... and by €2.7bn (8.5% of gross loans) by YE24



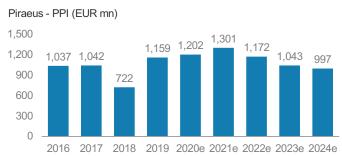
Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 165: Tangible equity per share



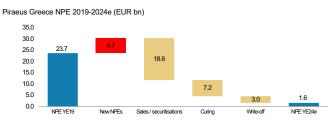
Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 166: PPI (pre-provisioning income)



Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 167: NPE evolution



Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 168: Tangible equity evolution



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FOUNDATION

Exhibit 169: Tangible equity



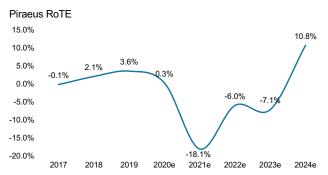
Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 170: CET1



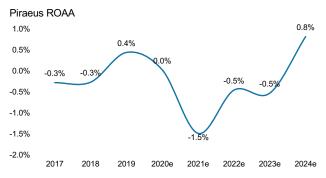
Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 171: RoTE evolution



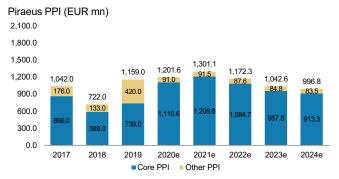
Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 172: ROAA



Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 173: PPI still driven by NII



Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 174: PPI yield could temporarily expand

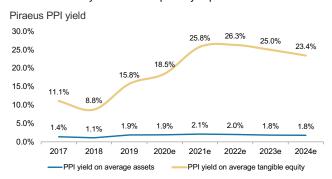
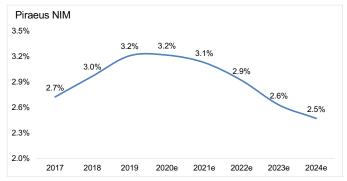
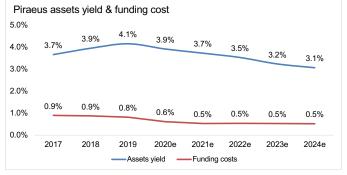


Exhibit 175: NIM likely to decline...



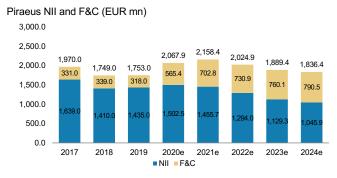
Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 176: driven by asset yields



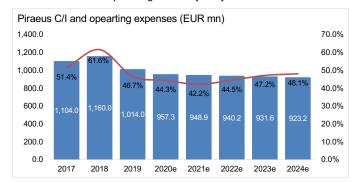
Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 177: Fee income is likely to grow in importance...



Source: Company data, Morgan Stanley Research estimates (e)

Exhibit 178: ... with operating efficiency likely to remain table



Source: Company data, Morgan Stanley Research estimates (e)

What comes next: our forecasts part 2

Piraeus's own targets for profitability (and size)

In its pre-COVID strategy update, Piraeus announced it was aiming to achieve a pre-tax RoA of 1% and RoTE of 10% in 2022, and surpass these targets from 2023. To achieve this target, the bank has budgeted NIM of around 2.1% (-30bps vs 9M19 levels), net F&C yield of around 70 bps over assets (vs 50 bps in 9M19), opex / average assets ratio of around 1.3% by 2022 (vs 1.7% in 9M19) as a result of improved cost efficiency, and normalised CoR of around 0.6% over net loans by 2022. The resulting target PPI yield is about 1.6%.

Our forecasts for sustainable RoE

Studying underlying profitability trends, we believe that by 2025 Piraeus Bank could start earning an RoTE of about 6.5% on its tangible equity; however, comparatively high NPE ratio would make it less sustainable, in our view.

Exhibit 179: Piraeus Bank RoE

<u>Piraeus</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020e</u>	<u>2021e</u>	2022e	2023e	2024e	long term
NIM	2.72%	2.97%	3.21%	3.22%	3.13%	2.92%	2.63%	2.47%	2.35%
IEA/TA	80.81%	73.50%	72.66%	75.06%	75.88%	75.92%	75.99%	75.98%	75.00%
F&C yield	0.44%	0.52%	0.52%	0.91%	1.15%	1.25%	1.34%	1.42%	1.40%
Other income yield	0.24%	0.21%	0.68%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%
C/I	51.44%	61.64%	46.66%	44.34%	42.17%	44.51%	47.19%	48.08%	48.00%
CoR (on net loans)	4.28%	1.26%	1.80%	2.45%	4.15%	0.79%	0.58%	0.45%	1.10%
Net loans / assets	63.41%	65.34%	64.10%	62.10%	59.81%	58.25%	56.03%	55.05%	56.00%
Tax rate	99.01%	-114.81%	31.87%	0.04%	29.00%	29.00%	29.00%	29.00%	29.00%
Equity / assets	13.01%	13.19%	12.41%	12.52%	12.00%	11.59%	11.48%	11.80%	12.50%
RoE DuPont	-0.10%	4.79%	4.00%	3.27%	-2.13%	9.47%	9.39%	9.27%	6.28%

Risk Reward - Piraeus Bank SA (BOPr.AT)

Cleanup likely to prove lengthy and costly. Equalweight.

PRICE TARGET €1.35

PT weighted 100% base case on target P/BV derived from Gordon Growth Model, in which our base case COE = 20%, sustainable RoE of 6.3%, earnings growth = 2%.



RISK REWARD CHART

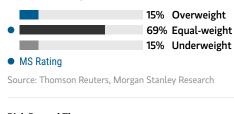


Source: Thomson Reuters, Morgan Stanley Research

EQUAL-WEIGHT THESIS

- Low coverage of NPEs and a low capital ratio limit the ability of Piraeus to speed up NPE reduction.
- In our base case we expect Piraeus to reduce gross domestic NPEs to €16.5bn by 2021e (vs €23.7bn at YE19).
- We expect capital ratios to remain above regulatory requirements with the Basel III CET1, IFRS9-phased in ratio at 12.8% by 2021e.
- Current NPE coverage is significantly lower at Piraeus; exacerbated by a combination of low CET1, this limits its ability to undergo Eurobank-style transformation.

Consensus Rating Distribution



Risk Reward Themes

Earnings Quality: Negative

View descriptions of Risk Rewards Themes, here

BULL CASE

€2.20 BASE CASE

€1.35

BEAR CASE

€0.30

0.3x Bull Case 2021e P/B

Sharper macro recovery allows the bank to speed up organic NPE reduction efforts in addition to securitisations. We apply a 7.5% RoTE to our 2024e valuation.

0.15x Base Case 2021e P/B

Piraeus is able to speed up NPE reduction using a securitisation, however low coverage of NPEs means costs will be high. We apply a 6.3% RoE to our 2024e valuation.

0.1x Bear Case 2021e P/B

Piraeus is unable to rely on securitisations to speed up NPE reduction. Rates of recovery and default improve somewhat but cost of risk still anchored at a high level in line with high NPE burdens. We apply a 5% RoE to our 2024e valuation.



Risk Reward – Piraeus Bank SA (BOPr.AT)

KEY EARNINGS INPUTS

Drivers	2019	2020e	2021e	2022e
Reported EPS growth (%)	52.5	(92.1)	NA	NA
Gross loan growth (%)	(5.5)	(3.8)	(10.7)	(12.9)
CoR (%)	1.4	1.9	3.3	0.7
Tier 1 ratio (%)	14.1	13.8	12.8	13.0
Net interest margin (%)	3.2	3.2	3.1	2.9

INVESTMENT DRIVERS

NPE reduction, improving cost of risk

GLOBAL REVENUE EXPOSURE



Source: Morgan Stanley Research Estimate View explanation of regional hierarchies, <u>here</u>

RISKS TO PT/RATING

RISKS TO UPSIDE

 Faster than expected GDP growth feeds through to a marked increase in successful NPE restructurings, allowing Piraeus to accelerate NPE reduction without the need to dispose/sell/securitise NPEs.

RISKS TO DOWNSIDE

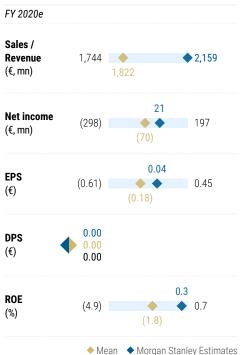
 Early stage (and therefore still fragile) recovery in macro environment is vulnerable to external shocks.

OWNERSHIP POSITIONING



Source: Morgan Stanley Prime Brokerage. Includes certain hedge fund exposures held with MSPB. Information may be inconsistent with or may not reflect broader market trends. Long/Short Ratio = Long Exposure / Short exposure. Sector % of Total Net Exposure = (For a particular sector: Long Exposure - Short Exposure) / (Across all sectors: Long Exposure - Short Exposure).

MS ESTIMATES VS. CONSENSUS



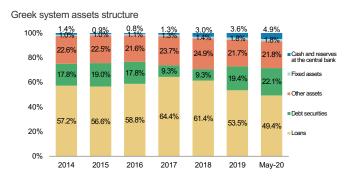
Source: Thomson Reuters, Morgan Stanley Research



Appendix A: Greek banking sector

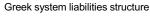
Summary of recent developments / statistics in the Greek banking sector.

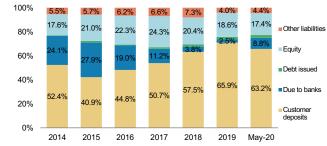
Exhibit 181: Loans as % total assets down to ~49% in May-20 from ~64% in 2017



Source: Bank of Greece

Exhibit 182: Customer deposits accounts for ~63% of total liability in May-20 vs ~41% in 2015





Source: Bank of Greece

Exhibit 183: NPLs declined to €68.5bn in 2019, from peak of €106.5bn in 2015

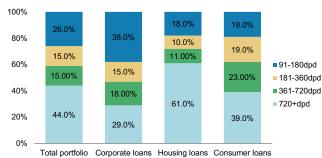
Greek system NPL (EUR bn)



Source: Haver Analytics

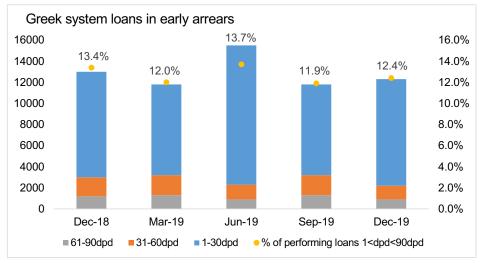
Exhibit 184: 720+ days past due accounts for 44.0% of total portfolio

NPL more than 90dpd by portfolio category



Source: Bank of Greece

Exhibit 185: c.12.4% of performing loans were in early arrears at the end 2019



Source: Bank of Greece

Exhibit 186: In2019 securities portfolio of Greek banks was up 7.1% y/y

Mar-18	Jun-18	Sep-18	Dec-18	Mar-19	Jun-19	Sep-19	Dec-19
10,921.6	14,095.4	15,032.5	15,616.3	15,484.7	16,244.3	17,502.1	16,438.9
730.1	780.3	826.3	949.5	908.8	830.3	804.6	1,143.5
559.0	580.5	616.5	539.4	626.3	689.4	522.1	540.3
140.0	138.6	137.7	134.8	119.2	122.4	105.4	129.8
556.4	472.5	451.9	403.0	446.0	518.7	555.2	634.9
8,720.1	11,886.8	12,876.2	9,951.2	9,940.3	10,682.8	11,388.2	10,720.4
701.3	751.4	797.4	643.6	888.5	810.0	784.2	1,119.9
559.0	580.5	616.2	554.4	626.3	689.4	522.1	540.3
139.9	138.6	137.7	121.2	119.2	122.4	105.4	129.8
	10,921.6 730.1 559.0 140.0 556.4 8,720.1 701.3 559.0	10,921.6 14,095.4 730.1 780.3 559.0 580.5 140.0 138.6 556.4 472.5 8,720.1 11,886.8 701.3 751.4 559.0 580.5	10,921.6 14,095.4 15,032.5 730.1 780.3 826.3 559.0 580.5 616.5 140.0 138.6 137.7 556.4 472.5 451.9 8,720.1 11,886.8 12,876.2 701.3 751.4 797.4 559.0 580.5 616.2	10,921.6 14,095.4 15,032.5 15,616.3 730.1 780.3 826.3 949.5 559.0 580.5 616.5 539.4 140.0 138.6 137.7 134.8 556.4 472.5 451.9 403.0 8,720.1 11,886.8 12,876.2 9,951.2 701.3 751.4 797.4 643.6 559.0 580.5 616.2 554.4	10,921.6 14,095.4 15,032.5 15,616.3 15,484.7 730.1 780.3 826.3 949.5 908.8 559.0 580.5 616.5 539.4 626.3 140.0 138.6 137.7 134.8 119.2 556.4 472.5 451.9 403.0 446.0 8,720.1 11,886.8 12,876.2 9,951.2 9,940.3 701.3 751.4 797.4 643.6 888.5 559.0 580.5 616.2 554.4 626.3	10,921.6 14,095.4 15,032.5 15,616.3 15,484.7 16,244.3 730.1 780.3 826.3 949.5 908.8 830.3 559.0 580.5 616.5 539.4 626.3 689.4 140.0 138.6 137.7 134.8 119.2 122.4 556.4 472.5 451.9 403.0 446.0 518.7 8.720.1 11,886.8 12,876.2 9,951.2 9,940.3 10,682.8 701.3 751.4 797.4 643.6 888.5 810.0 559.0 580.5 616.2 554.4 626.3 689.4	10,921.6 14,095.4 15,032.5 15,616.3 15,484.7 16,244.3 17,502.1 730.1 780.3 826.3 949.5 908.8 830.3 804.6 559.0 580.5 616.5 539.4 626.3 689.4 522.1 140.0 138.6 137.7 134.8 119.2 122.4 105.4 556.4 472.5 451.9 403.0 446.0 518.7 555.2 8,720.1 11,886.8 12,876.2 9,951.2 9,940.3 10,682.8 11,388.2 701.3 751.4 797.4 643.6 888.5 810.0 784.2 559.0 580.5 616.2 554.4 626.3 689.4 522.1

Exhibit 187: In 2019 total loans of Greek banks were down 6.4% y/y

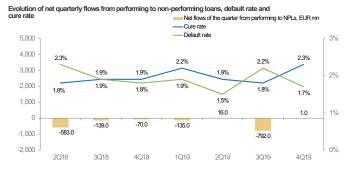
Total portfolio – key figures	Dec-18	Jun-19	Dec-19
on-balance-sheet items, in EUR mn			
Breakdown of NPLs			
Total loans	180,180	172,971	168,707
Performing loans	98,379	97,592	100,180
NPLs	81,802	75,379	68,527
Unlikely to pay	25,057	22,828	20,378
Past due >90 days (excl. denounced loans)	17,644	14,429	,
91-180 days	3,214	3,635	
181-360 days	2,581	1,897	2,149
>1 year	11,850	8,897	8,384
Denounced loans	39,101	38,121	34,104
Breakdown of forborne loans			
Forborne loans	46,299	41,811	38,553
Performing forborne loans	15,495	14,615	13,949
Non-performing forborne loans	30,804	27,196	24,603
Breakdown of impairment losses and write-offs			
Accumulated impairment on NPLs	38,746	34,683	30,082
Write-offs	5,898	2,116	4,291
of which write-offs of denounced loans	3,548	1,146	2,443
Breakdown of collateral			
Total collateral	102,558	98,852	100,106
Collateral on performing loans	58,887	57,750	61,992
Collateral on NPLs	43,671	41,102	38,184
Unlikely to pay	14,199	13,725	12,105
Past due >90 days (excl. denounced loans)	10,243	8,419	8,251
Denounced loans	19,299	18,958	17,827
Collateral on non-performing forborne loans	17,756	16,643	15,234
Breakdown of flows			
Flows of performing loans	-1,040	-120	-911
Flows from NPLs	6,766	3,254	6,228
Flows to NPLs	-7,806	-3,373	-7,139
Source: Bank of Greece, Morgan Stanley Research			

Exhibit 188: In 209 aggregate NPL ratio of Greek banks was down 4.8 pps y/y

Total portfolio – key indicators	Dec-18	Jun-19	Dec-19	
on-balance-sheet items, in %				
Credit quality				
NPL ratio	45.4%	43.6%	40.6%	
>90 days past due	31.5%	30.4%	28.5%	
NPL structure				
Unlikely-to-pay	30.6%	30.3%	29.7%	
Past due >90 days (excl. denounced loans)	21.6%	19.1%	20.5%	
91-180 days	3.9%	4.8%	5.1%	
181-360 days	3.2%	2.5%	3.1%	
>1 year	14.5%	11.8%	12.2%	
Denounced loans	47.8%	50.6%	49.8%	
Forborne to total loans				
Forborne loans	25.7%	24.2%	22.9%	
Performing forborne loans	8.6%	8.4%	8.3%	
Non-performing forborne loans	17.1%	15.7%	14.6%	
Coverage ratios and write-offs				
Provisioning coverage ratio of NPLs	47.4%	46.0%	43.9%	
Total write-offs to total loans	3.3%	1.2%	2.5%	
Total write-offs to NPLs	7.2%	1.5%	6.3%	
NPL collateral coverage ratio	53.4%	54.5%	55.7%	
Collateral coverage on non-performing forborne loans	57.6%	61.2%	61.9%	
Total NPL coverage (provisions + collaterals)	100.8%	100.5%	99.6%	
Default and cure rates				
Default rate	1.8%	1.5%	1.7%	
Cure rate	1.9%	1.9%	2.3%	
Credit risk cost				
Loan-loss impairment to net loans	2.1%	1.8%	1.8%	
Loan-loss impairment to total assets	1.3%	1.1%	1.0%	
Courses Deals of Croses Margan Chaples Deceased				

Source: Bank of Greece, Morgan Stanley Research

Exhibit 189: In 2019 net NPL flow in Greek banking system was a negative €910m



Source: Bank of Greece, Morgan Stanley Research

Exhibit 190: In 2019 NPL coverage of Greek banks dropped by 3.5 pps y/y

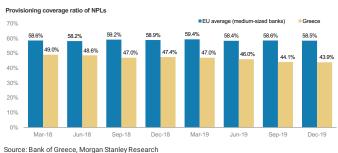
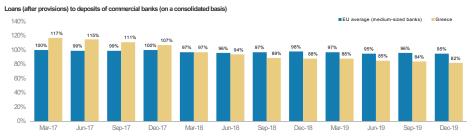


Exhibit 191: In 2019 the L/D ratio of Greek banks was down 6 pps y/y to 82%



Source: Bank of Greece, Morgan Stanley Research



Exhibit 192: Loans to small businesses and professionals have the highest NPL ratio at 62.2%, while shipping loans have the lowest at 15.7%

Structure of Greek commercial banks' total loans and NPLs by loan portfolio category	Total loans	Corporates	Large Corporates	SMEs	SB and Professionals	Shipping	Household	Housing	Consumer
As of YE19	a=b+g	b=c+d+e+f	С	d	е	f	g=h+i	h	i
Balance, EUR bn	168.7	98.4	39.9	31.8	19.0	7.7	70.3	55.8	14.5
NPL ratio	40.6%	38.4%	21.8%	50.6%	62.2%	15.7%	43.7%	42.4%	48.6%
of which									
Unlikely to pay	30%	34%	64%	29%	17%	45%	25%	25%	24%
Past due >90 days (excl. denounced loans)	20%	16%	13%	16%	16%	30%	26%	27%	24%
Denounced loans	50%	51%	23%	55%	67%	24%	49%	48%	52%

Source: Bank of Greece, Morgan Stanley Research



Appendix B: Project Hercules overview

Project Hercules is a guarantee scheme under which the Greek government guarantee the senior tranches of securitisations of NPEs from banks' balance sheets.

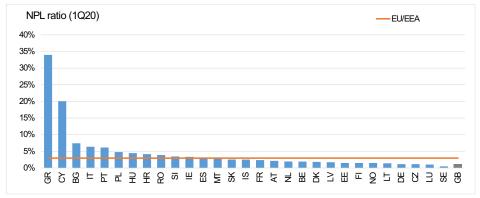
- Senior notes rank above mezzanine and junior notes in the waterfall structure and benefit from a state guarantee. The mezzanine notes rank between the senior and junior notes. Neither the mezzanine nor the junior notes will benefit from a state guarantee. The junior notes rank the lowest and are fully participating in gains and losses; they do not give any right to cash flows until the notional of the senior and mezzanine tranches have been repaid in full.
- The guarantees granted under Project Hercules are not considered state aid as they are priced on market terms.
- The senior notes have a target rating of BB-, Ba3 or higher; the set up of the securitisation will be calibrated such that the target rating on the senior notes is achieved.
- The guarantee will only become effective after the originating bank has sold to
 private investors at least 50% plus one share of the junior tranche at a positive
 value and has sold at a positive price a part of the junior and mezzanine tranches
 that is sufficiently large to achieve accounting de-recognition of the sold NPLs. The
 junior and mezzanine notes cannot be bought by the Greek state or state-related
 bodies.
- NPLs are securitised at no higher than the current net book value (gross NPL minus provisions).
- Upon securitisation the originator appoints an independent servicer to work-out the underlying NPLs.
- Performance triggers for the NPL servicer can provide that the payment of the
 mezzanine tranche be postponed until actual recoveries have caught up with
 projected recoveries, or when the senior tranche has been fully repaid. Fees to the
 NPL servicer can also be conditional.
- Pricing of the state guarantee is determined in part by the Hellenic Republic Credit Default Swap.
- The charge of the guarantee steps up to encourage early adoption of the scheme.



Appendix C: Greek banks vs EU banks

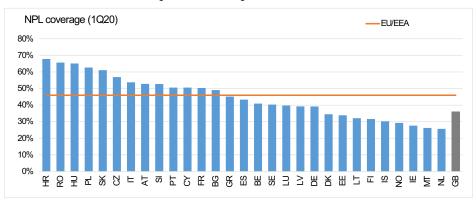
In this section we compare Greek banks to their EU peers based on EBA country-level data.

Exhibit 193: Greek banks' NPL ratio is the highest in EU...



Source: EBA risk dashboard, Morgan Stanley Research

Exhibit 194: ... while NPL coverage is below average



Source: EBA risk dashboard, Morgan Stanley Research

Exhibit 195: NPE ratio is also the highest in Greece...

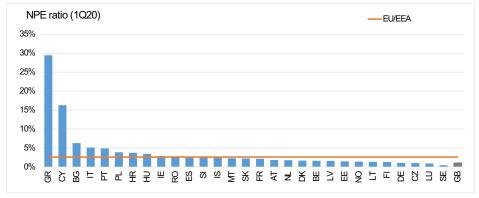
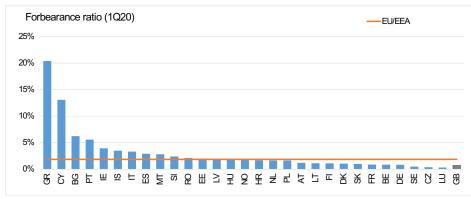


Exhibit 196: ... as is forbearance ratio



Source: EBA risk dashboard, Morgan Stanley Research

Exhibit 197: Greek banks are above average on CET1 ratio comparison: both phased-in...

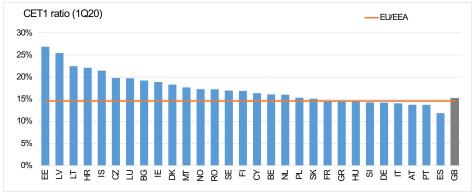




Exhibit 198: ... and fully-loaded

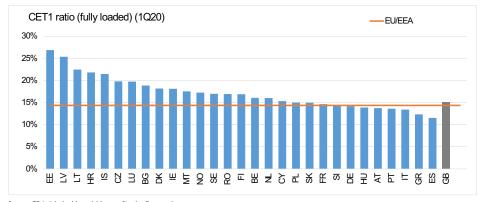
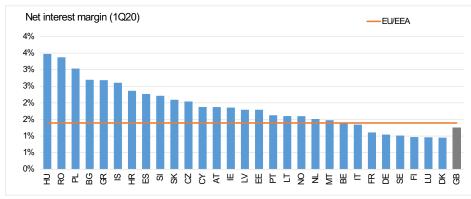


Exhibit 199: Greek banks' NIM is just below EU average...



Source: EBA risk dashboard, Morgan Stanley Research

Exhibit 200: ... while their cost/income ratio is better (i.e. below) than average

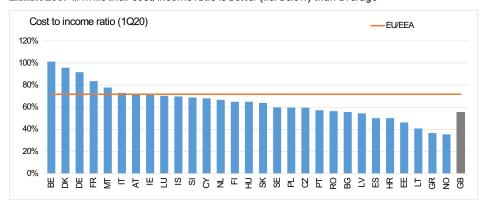


Exhibit 201: Greek banks' RoEs remain depressed...

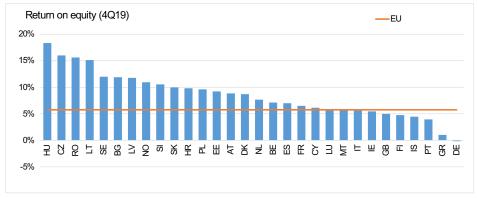
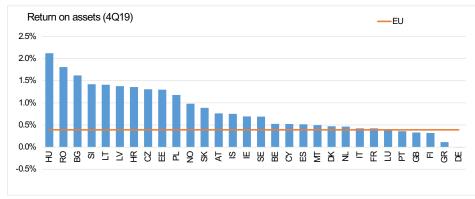


Exhibit 202: ... driven by low returns on assets



Source: EBA risk dashboard, Morgan Stanley Research

Exhibit 203: NII represents the majority of operating income...

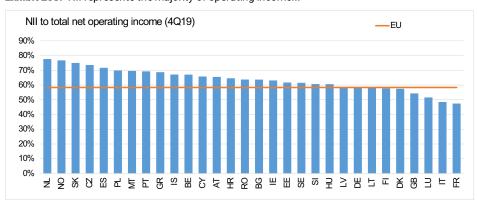
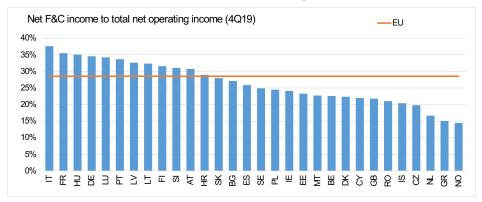


Exhibit 204: ... while contribution of fee income is below-average



Appendix D: Methodology

RoE decomposition into key drivers

Exhibit 205: RoE Key drivers:

$$\begin{split} \operatorname{RoE} &= \frac{\operatorname{Net \ profit}}{\operatorname{Equity}} = \frac{\operatorname{Net \ profit}}{\operatorname{Total \ assets}} \cdot \frac{\operatorname{Total \ assets}}{\operatorname{Equity}} = \\ &= \frac{(\operatorname{NII} + \operatorname{F\&C} + \operatorname{other}) \left(1 - \operatorname{C/I}\right) - \operatorname{provisioning}}{\operatorname{TA}} \cdot (1 - \operatorname{t}) \cdot \frac{\operatorname{TA}}{\operatorname{Equity}} = \\ &= \left[\left(\frac{\operatorname{NII}}{\operatorname{TA}} + \frac{\operatorname{F\&C}}{\operatorname{TA}} + \frac{\operatorname{other}}{\operatorname{TA}} \right) \left(1 - \operatorname{C/I}\right) - \frac{\operatorname{provisioning}}{\operatorname{TA}} \right] \cdot (1 - \operatorname{t}) \cdot \frac{\operatorname{TA}}{\operatorname{Equity}} = \\ &= \left[\left(\operatorname{NIM} \cdot \frac{\operatorname{IEA}}{\operatorname{TA}} + \operatorname{F\&C} \ \operatorname{yield} + \operatorname{other} \ \operatorname{yield} \right) \left(1 - \operatorname{C/I}\right) - \operatorname{CoR}^* \cdot \frac{\operatorname{Loans}}{\operatorname{TA}} \right] \cdot (1 - \operatorname{t}) \cdot \frac{\operatorname{TA}}{\operatorname{Equity}} \end{split}$$

Source: Morgan Stanley Research

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STOCK RATING	COUNT	% OF	COUNT	% OF	% OF	COUNT	% OF
CATEGORY		TOTAL		TOTAL IBC	RATING		TOTAL
					CATEGORY		OTHER
							MISC
Overweight/Buy	1282	39%	339	44%	26%	568	39%
Equal-weight/Hold	1426	44%	340	45%	24%	676	46%
Not-Rated/Hold	4	0%	1	0%	25%	3	0%
Underweight/Sell	555	17%	83	11%	15%	224	15%
TOTAL	3,267		763			1471	

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Alpha Bank SA (ACBr.AT) - As of 9/20/20 in EUR Industry :



Stock Rating History: 9/1/15 : EANR; 5/4/16 : OANR; 6/29/16 : EANR; 5/10/19 : UANR; 11/3/19 : EANR; 8/7/20 : NAANR

Price Target History: 1/19/15 : 27.5; 11/2/15 : NA; 12/18/15 : 2.75; 5/4/16 : 3.65; 6/29/16 : 2.01; 12/5/16 : 2.49; 5/11/17 : 2.78;

9/16/17 : 2.9; 5/30/18 : 2.1; 12/19/18 : NA; 5/10/19 : 1.2; 11/4/19 : 1.7; 8/7/20 : NA

Source: Morgan Stanley Research Date Format: MM/DD/YY Price Target -- No Price Target Assigned (NA)
Stock Price (Not Covered by Current Analyst) -- Stock Price (Covered by Current Analyst) -Stock and Industry Ratings (abbreviations below) appear as + Stock Rating/Industry View
Stock Ratings: Overweight (O) Equal-weight (E) Underweight (U) Not-Rated (NR) No Rating Available (NA)

Industry View: Attractive (A) In-line (I) Cautious (C) No Rating (NR)
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Effective January 13, 2014, the industry view benchmarks for Morgan Stanley Asia Pacific are as follows: relevant MSCI country index or MSCI sub-regional index or MSCI AC Asia Pacific ex Japan Index.

Eurobank Ergasias SA (EURBr.AT) – As of 9/20/20 in EUR Industry :



Stock Rating History: 9/1/15 : E/NR; 5/4/16 : 0/NR; 6/29/16 : E/NR; 5/10/19 : 0/NR; 11/4/19 : E/NR; 8/7/20 : NA/NR
Price Target History: 1/19/15 : 2000; 11/2/15 : NA; 12/18/15 : 0.99; 5/4/16 : 1.42; 6/29/16 : 0.79; 12/5/16 : 0.9; 5/11/17 : 0.98;
9/16/17 : 0.9; 5/30/18 : 1.05; 12/19/18 : NA; 5/10/19 : 1; 11/4/19 : 0.9; 8/7/20 : NA

Source: Morgan Stanley Research Date Format: MM/DD/YY Price Target •• No Price Target Assigned (NA)

Stock Price (Not Covered by Current Analyst) • Stock Price (Covered by Current Analyst) •

Stock and Industry Ratings (abbreviations below) appear as + Stock Rating/Industry View

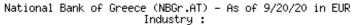
Stock Ratings: Overweight (O) Equal-weight (E) Underweight (U) Not-Rated (NR) No Rating Available (NA)

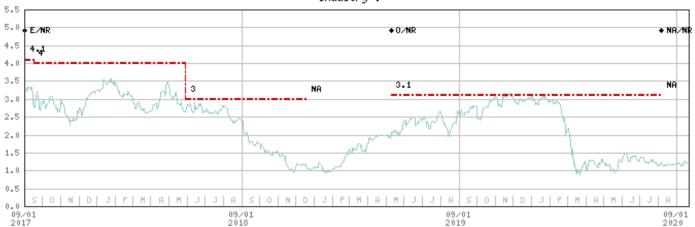
Industry View: Attractive (A) In-line (I) Cautious (C) No Rating (NR)

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Effective January 13, 2014, the industry view benchmarks for Morgan Stanley Asia Pacific are as follows: relevant MSCI country index or MSCI sub-regional index or MSCI AC Asia Pacific ex Japan Index.

(or industry team's) coverage.





Stock Rating History: 9/1/15 : NA/NR; 11/2/15 : NA/NR; 11/11/15 : NA/NR; 5/4/16 : O/NR; 6/29/16 : E/NR; 5/10/19 : O/NR; 8/7/20 : NA/NR

Price Target History: 3/11/15: NA; 11/2/15: NA; 11/11/15: NA; 5/4/16: 5.3; 6/29/16: 2.9; 12/5/16: 3.4; 5/11/17: 4.1; 9/16/17: 4; 5/30/18: 3; 12/19/18: NA; 5/10/19: 3.1; 8/7/20: NA

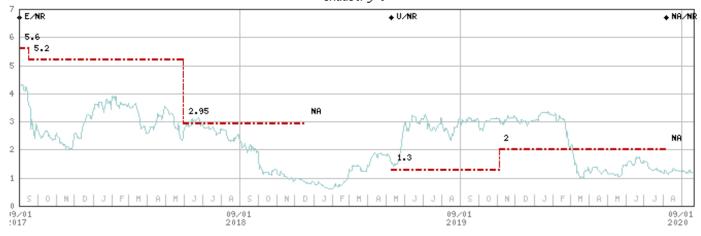
Source: Morgan Stanley Research Date Format: MM/DD/YY Price Target -- No Price Target Assigned (NA)
Stock Price (Not Covered by Current Analyst) -- Stock Price (Covered by Current Analyst) -Stock and Industry Ratings (abbreviations below) appear as ◆ Stock Rating/Industry View

Stock Ratings: Overweight (O) Equal-weight (E) Underweight (U) Not-Rated (NR) No Rating Available (NA)

Industry View: Attractive (A) In-line (I) Cautious (C) No Rating (NR)
Effective January 13, 2014, the stocks covered by Morgan Stanley Asia Pacific will be rated relative to the analyst's industry

Effective January 13, 2014, the industry view benchmarks for Morgan Stanley Asia Pacific are as follows: relevant MSCI country index or MSCI sub-regional index or MSCI AC Asia Pacific ex Japan Index.

Piraeus Bank SA (BOPr.AT) - As of 9/20/20 in EUR Industry :



Stock Rating History: 9/1/15 : E/NR; 5/4/16 : 0/NR; 6/29/16 : E/NR; 5/10/19 : U/NR; 8/7/20 : NA/NR

Price Target History: 1/19/15 : 1920; 11/2/15 : NA; 12/18/15 : 6.4; 5/4/16 : 9.2; 6/29/16 : 5; 12/5/16 : 5.2; 5/11/17 : 5.6; 9/16/17 : 5.2; 5/30/18 : 2.95; 12/19/18 : NA; 5/10/19 : 1.3; 11/4/19 : 2; 8/7/20 : NA

Stock Ratings: Overweight (O) Equal-weight (E) Underweight (U) Not-Rated (NR) No Rating Available (NA) Industry View: Attractive (A) In-line (I) Cautious (C) No Rating (NR)

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Effective January 13, 2014, the industry view benchmarks for Morgan Stanley Asia Pacific are as follows: relevant MSCI country index or MSCI sub-regional index or MSCI AC Asia Pacific ex Japan Index.

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INDUSTRY COVERAGE: Banks

COMPANY (TICKER)	RATING (AS OF)	PRICE* (09/18/2020)
Alvaro Serrano		
AlB Group plc (A5G.F)	E (02/27/2018)	€0.97
Banco Sabadell (SABE.MC)	E (12/02/2019)	€0.33
Bankia SA (BKIAMC)	++	€1.37
Bankinter (BKT.MC)	U (09/26/2014)	€4.26
Bank of Ireland (BIRG.I)	E (09/18/2014)	€1.74
Barclays Bank (BARC.L) BBVA (BBVA.MC)	E (01/10/2018) E (09/07/2017)	97p €2.31
CaixaBank SA (CABK.MC)	++	€2.02
Lloyds Banking Group (LLOY.L)	O (02/11/2019)	25p
NatWest Group (NWG.L)	O (12/16/2019)	97p
Santander (SAN.MC)	O (09/07/2017)	€1.70
UNICAJA BANCO SA (UNI.MC) Virgin Money UK PLC (VMUK.L)	E (07/03/2018) E (08/28/2019)	€0.71 85p
Antonio Reale		
Banca Monte dei Paschi di Siena S.p.A (BMPS.MI)	E (09/08/2016)	€1.34
Banco BPM SpA (BAMI.MI)	E (09/27/2019)	€1.39
Danske Bank (DÀNSKE.ĆO)	E (09/23/2019)	DKr 84.44
DNB (DNB.OL)	E (05/04/2020)	NKr 134.60
Intesa SanPaolo S.p.A (ISP.M)	0 (0.4/4.4/0000)	€1.71
Mediobanca Banca Di Credito Finanziario (MDBI.MI) Nordea Bank Abp (NDASE.ST)	O (04/14/2020)	€6.98 SKr 68.37
SEB (SEBa.ST)	E (09/23/2019) U (09/23/2019)	SKr 81.38
Svenska Handelsbanken (SHBa.ST)	O (09/16/2020)	SKr 77.54
Swedbank (SWEDa.ST)	O (09/23/2019)	SKr 141.40
UniCredit S.p.A (CRDI.MI)	O (07/03/2018)	€7.56
Unione di Banche Italiane SpA (UBI.M)		€3.55
Giulia Aurora Miotto, CFA		
ABN AMRO Group NV (ABNd.AS)	E (12/02/2019)	€7.48
BAWAG Group AG (BAWG.VI)	O (05/23/2018)	€32.54
BNP Paribas (BNPP.PA)	O (05/27/2020)	€34.60
Credit Agricole S.A. (CAGR.PA)	O (09/13/2019)	€8.10
ING Groep (INGAAS)	E (09/09/2019)	€6.60 €46.53
KBC Group NV (KBC.BR) Natixis (CNAT.PA)	O (09/09/2019) E (06/23/2020)	€46.52 €2.16
NIBC Holding NV (NIBC.AS)	++	€7.41
Societe Generale (SOGN.PA)	E (09/13/2019)	€12.63
van Kachkovski, CFA		
Alpha Bank SA (ACBr.AT)	O (09/21/2020)	€0.56
Eurobank Ergasias SA (EURBr.AT)	E (09/21/2020)	€0.39
National Bank of Greece (NBGr.AT)	O (09/21/2020)	€1.17
Piraeus Bank SA (BOPr.AT)	E (09/21/2020)	€1.18
zabel Dobreva		
Commerzbank (CBKG.DE)	O (07/06/2020)	€4.48
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Magdalena L Stoklosa, CFA		
Credit Suisse Group AG (CSGN.S)	O (04/08/2020)	SFr 9.79
Deutsche Bank (DBKGn.DE)	U (05/01/2019)	€7.67
HSBC (HSBAL)	E (08/11/2020)	304p
UBS Group AG (UBSG.S)	E (04/08/2020)	SFr 10.98
Nick Lord		
Standard Chartered Bank (STAN.L)	E (03/17/2020)	359p
	= (55/11/2525)	2006

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