

# NBG (National Bank of Greece S.A.)

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Earnings Review & Estimates Update

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## NBG is still in defense of its capital base | The “chapter” of growth has not started yet

- We expect the years 2018 – 2019 to be another period of tough recovery for NBG’s fundamentals. We assign a 60% probability rate that NBG will post during this period a sustainable positive bottom line performance in terms of earnings after taxes and minorities following several years of loss making results and a marginally profitable year in 2017. This projected performance is not anticipated to be especially robust though.
- The management of non-performing loans (NPLs) is the most determinant factor of NBG’s future profitability. The targets submitted to the SSM (European Union’s Single Supervisory Mechanism) and the Bank of Greece (the country’s central bank) call for a reduction of NPEs and NPLs (non-performing loans) by € 8.5 billion and € 7.4-7.6 billion respectively during the period 2016 – 2019.
- NBG is the first systemic bank in Greece to have eliminated its ELA reliance by the end of 2017. NBG reported its ELA reliance at € 5.6-5.8 billion by the end 2016 and at € 1.0 billion in Q3 2017. Apart from the ELA funding, the ECB funding stood at € 3.7 billion in the same quarter bringing the total funding from the Euro-system to € 4.7 billion.
- NBG has enhanced its capital base over the period 2016-2017 via the sale of several non-core assets. The sale of non-core assets allows NBG to stronger focus on the NPL management and the creation of conditions to improve its so far slowly recovering deposit base. However, we expect that the capital needs will remain demanding for NBG going forward given its need towards more effective NPL management.
- 9M 2017 results showed some improvement in terms of bottom line performance. NBG reported lower net interest as well as operating income by 5% and it managed to attain higher contraction in operating expenses by 8% thus bringing its operating profit to the same levels with the 9M period of 2016.
- Our estimates with regard to Q4 2017, as compared to the same period of 2016, indicate continuous pressure on operating profitability however point to an improved bottom line performance due to lower loan loss impairments following the decrease of NPEs for six consecutive quarters. According to our model, NBG is projected to return to marginal profitability in FY 2017.
- In the short-term, NBG’s valuation is apparently driven by expectations over the potential outcome of the imminent asset quality reviews and stress tests whereas in the long-term it will be mostly affected by the results delivered from the Bank’s NPL management actions.

## National Bank of Greece S.A. – Summary of Consolidated Financials

January 12, 2018

(in € mn)	TOTAL ASSETS	DEPOSITS	NET LOANS	EQUITY	NII	OPER. EXPENSES	EBT	EATAM	P/E (x)	P/BV (x)	ROE %
2007	90,386	60,530	54,693	6,470	3,051	2,343	1,903	1,625	2.0	0.5	25%
2008	101,323	67,657	69,898	5,972	3,580	2,422	1,937	1,546	2.1	0.5	26%
2009	113,394	71,194	74,753	8,453	3,966	2,522	1,252	923	3.5	0.4	11%
2010	120,745	68,039	77,262	9,655	4,148	2,553	638	406	7.9	0.3	4%
2011	106,732	59,544	71,496	-723	3,843	2,571	-13,420	-12,344	n/c	n/c	n/c
2012	104,798	58,722	69,135	-2,284	3,365	2,344	-1,973	-2,127	n/c	n/c	n/c
2013	110,930	62,876	67,250	7,111	3,157	2,567	-179	809	4.0	0.5	11%
2014	115,212	64,929	68,109	9,612	1,998	1,350	-1,500	66	48.5	0.3	1%
2015	111,175	42,959	45,375	9,099	1,765	1,215	-5,198	-4,227	n/c	0.4	n/c
2016	78,531	40,459	41,643	6,907	1,782	1,169	-2,826	-2,887	n/c	0.5	n/c
2017	66,751	39,023	35,979	6,950	1,572	1,043	72	40	79.2	0.5	1%
2018	67,419	39,946	36,811	7,225	1,582	1,070	576	393	8.1	0.4	5%
2019	68,093	41,421	38,193	7,529	1,701	1,107	634	434	7.4	0.4	6%

Note: P/E = Current mkt cap / EATAM. P/BV = Current mkt cap / Equity. EATAM and Equity in 2011 and 2012 were negative. Last historic year is 2016. Equity is depicted excluding minorities and hybrid capital.

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Notes: Projections are based on IFRS consolidated accounts. Projected years concern the period 2017 - 2019.

## NBG is still in defense of its capital base amid a sensitive macroeconomic environment

The “chapter” of growth has not started yet and it will take time

We expect the years 2018 – 2019 to be another period of tough recovery for NBG’s fundamentals. We assign a 60% probability rate that NBG will post during this period a sustainable positive bottom line performance in terms of earnings after taxes and minorities following several years of loss making results and a marginally profitable year in 2017. This projected performance is not anticipated to be especially robust though. On the other hand given the negative track record of the Bank (continuous loan loss provisions and impairments), earnings volatility will remain on the table in view of the upcoming stress tests and the adoption of new regulatory frameworks calling for significant adjustments in the loan portfolio book. As transparency on the above issues is so far considered to be low the new adjustments on the Bank’s balance sheet are expected to augment volatility of NBG’s valuation in the following quarters.

### Asset Quality

**The management of non-performing loans (NPLs) is the most determinant factor of NBG’s future profitability.** The targets submitted to the SSM (European Union’s Single Supervisory Mechanism) and the Bank of Greece (the country’s central bank) call for a reduction of NPEs and NPLs (non-performing loans) by € 8.5 billion and € 7.4-7.6 billion respectively during the period 2016 – 2019. NPEs are targeted to € 13.1-13.5 billion by the end 2019 versus € 21.5 billion in Q1 2016, whereas NPLs are targeted to € 7.7 billion from € 15.3 billion during the same period. By achieving these targets, NBG will have reduced its NPE and NPL ratios by ca. 15 ppts with the NPE coverage expected to settle around 50%. NPE coverage stood at 55.9% whereas NPL coverage at 74% in Q3 2017 according to the Bank’s management. Towards the above objectives, we see with positive mood the current structure of the Bank’s loan portfolio.

**Loans & Advances to Customers** (€ million, consolidated accounts)

	30/9/2017	31/12/2016
Mortgages	16,741	17,992
Consumer Loans	4,117	4,743
Credit Cards	964	1,046
Small Business Lending	3,599	3,948
<b>Retail Lending</b>	<b>25,421</b>	<b>27,729</b>
Corporate and Public Sector Lending	23,551	25,371
<b>Sub-Total</b>	<b>48,972</b>	<b>53,100</b>
Allowance for Impairments	10,900	11,457
<b>Total</b>	<b>38,072</b>	<b>41,643</b>

Source: Company data

So far the Bank has succeeded in its targets. NPEs settled at € 18.7 billion and NPLs at € 14.0 billion by the end of 2016 whereas they were further reduced to € 18-18.5 billion and € 13.6-13.9 billion respectively by the end of Q3 2017. **We note though that with regard to NPEs, the impact of their**

**write-offs was greater than the impact of their negative formation in bringing down the above levels during the period Q1 2016 – Q3 2017.**

NPE formation has been negative in four out of the five previous quarters demonstrating favorable momentum from the stabilization of the domestic macroeconomic environment. **Still though, the above trend was not so healthy since looking at the respective NPL portfolio there has been a positive formation in three out of the five previous quarters. We strongly view that the evolution of the NPL portfolio is the key factor of the Bank's financial health going forward.**

Total forbore stock in the loan portfolio accounted for € 10.3 billion at the end 2016 (of which € 3.0 billion represented FPEs and € 3.3 billion FNPEs), whereas it declined to € 10.1 billion in Q3 2017 (of which € 2.9 billion represented FPEs and € 3.2 billion FNPEs). **In our view the trend is clearly signaling the difficulties of achieving sustainably improving results in this part of the loan portfolio.**

According to the management, NBG is seeking to channel new loans of ca. € 2.0 billion into the Greek economy in the form of corporate disbursements over the period 2018–2019 in an effort to control the deleveraging trend --meaning the contraction of its income generating loan portfolio-- that affected operating results in previous quarters.

### Liquidity Position

**NBG is the first systemic bank in Greece to have eliminated its ELA reliance by the end of 2017.**

NBG reported its ELA reliance at € 5.6-5.8 billion by the end 2016 and at € 1.0 billion in Q3 2017. Apart from the ELA funding, the ECB funding stood at € 3.7 billion in the same quarter bringing the total funding from the Euro-system to € 4.7 billion. The lower reliance on the Eurosystem funding implies significant savings of € 200 million per annum according to the management's most recent guidance. **We do not see any strong sign that NBG's reliance on the broader Euro-system funding could be fully eliminated over the following three quarters** due to the trends so far observed in both the loan and the deposit side.

On the side of deposits, although they have only slowly increased over the past 5 quarters, NBG continues to benefit from a well balanced loan to deposit ratio, between 0.95-1.00x (consolidated book) which makes its funding cost base more cost efficient. NBG has the lowest domestic funding cost among its peers, 0.47% versus 0.59%-0.67% for its peers. Deposits should further pick up in the period 2018-2019 and at the same time be somewhat upwardly priced given the anticipated environment of gradually rising interest rates in the Euro Area over the same period. The loans to deposits ratio is one of the most important advantages of NBG especially when it is compared to the other three Greek systemic banks. Not only does it cushion any impact on NBG from unfavorable market dynamics but it also provides space for notable growth via leverage. In other words the Bank does not have the need to match its loan book through additional and more expensive funding, as it is the case for its Greek peers, and at the same time it can leverage its position in order to attain additional loan book as well as interest income growth in the future.

### Capital Adequacy and Enhancement Actions

**NBG has enhanced its capital base over the period 2016-2017** via the sale of 3 major assets namely Finansbank in Turkey for a consideration of € 2.75 billion, UBB in Bulgaria for € 610 million and Astir Palace Hotel in Greece for € 587 million. Based on Bank's most recent guidance, there will be additional transactions relating to the assets of Ethniki Insurance (deal of € 770 million expected in Q1 2018), Banca Romanesca, Voldodjanska and NBG Leasing, thus strengthening liquidity by additional € 1.7-1.8 billion. The sale of non-core assets allows NBG to stronger focus on

NPL management and the creation of conditions to improve its so far slowly recovering deposit base. However, we expect that the capital needs will remain demanding for NBG going forward given its need towards more effective NPL management.

NBG proceeded with a covered bond transaction in October 2017 (the first one since year 2009) raising € 750 million at a yield of 2.90% (versus a coupon rate of 2.8%) which was mainly allocated to international investors.

It should also be noted that the Bank was recapitalized along three phases over the past years; first in 2012-2013 when it raised ca. € 9.8 billion, then in 2014 injecting proceeds of ca. € 2.5 billion and lastly in 2015 raising ca. € 2.5 billion. Thus the aggregate proceeds from recapitalization have so far reached ca. € 14.7-14.8 billion compared to € 46 billion for the entire Greek banking sector.

## Profitability

NBG reported negative bottom line profitability of € 2,887 million in FY 2016 and € 178 million in the 9-month period of 2017. Despite the ongoing and successful efforts of the Bank to contain its operating cost (via a series of initiatives such as voluntary retirement plans, as well as personnel optimization and branch network restructuring), **profitability is highly dependent on the impact of loan loss provisions and other extraordinary items as NBG continues to restructure its non-core asset portfolio. The next challenge for NBG will be to attain a positive profitability in FYs 2018 and 2019; we assign a 60% probability rate on this scenario.** It is also worth mentioning that following the successful sale of its most significant international holdings, NBG's profit recovery is now strongly connected to the Greek market. We note that profit contribution (after tax) from international operations settled at € 36 million in FY 2016 and € 18 million in 9M 2017.

## 9M 2017 Results and Q4 2017 Estimates

9M 2017 results showed some improvement in terms of bottom line performance. NBG reported lower net interest as well as operating income by 5% and it managed to attain higher contraction in operating expenses by 8% thus bringing its operating profit to the same levels with the 9M period of 2016. Loan loss provisions were reported higher by 9% whereas extraordinary items from sale of non-core assets were reduced to minimal levels. Capital adequacy ratio stood at 16.8% as of end September 2017.

### Profit Breakdown (€ million, consolidated accounts)

9M Period 2017	Retail Banking	Corporate / Investment Banking	SAU	Global Mkts & Asset Management	International Operations	Other	Group
Net Interest Income	389	389	92	128	77	118	1,193
Net Fees & Commission Income	68	66	4	20	18		176
Other	14	-31	-10	-120	-2	-7	-156
<b>Total Income</b>	<b>471</b>	<b>424</b>	<b>86</b>	<b>28</b>	<b>93</b>	<b>111</b>	<b>1,213</b>
Direct Costs	-313	-29	-8	-21	-61	-7	-439
Allocated Costs and Provisions	-408	-61	-162	-14	-9	-202	-856
Other						1	1
<b>Profit / (Loss) before Tax</b>	<b>-250</b>	<b>334</b>	<b>-84</b>	<b>-7</b>	<b>23</b>	<b>-97</b>	<b>-81</b>

Source: Company data

Our estimates with regard to Q4 2017, as compared to Q4 2016, indicate continuous pressure on operating profitability however point to an improved bottom line performance due to lower loan loss impairments following the decrease of NPEs for six consecutive quarters. According to our

model, NBG is projected to return to marginal profitability in FY 2017 (net profit after taxes and minorities of € 40 million) and further improve its performance in FYs 2018 and 2019 (figures of € 393 million and € 434 million respectively). However this outlook is subject to a number of risk factors with most notable ones being the NPLs cleanup and the effect of the new regulations on the Bank's assets.

### NBG versus Peers in Greece

According to the management's guidance, NBG maintained the highest NPE coverage ratio in Q3 2017, 56% versus a range of 45%-52% for the other three peers in Greece (namely Alpha Bank, Piraeus Bank and Eurobank), as well as the highest NPL coverage ratio of 74% versus 66%-69% for its peers. Furthermore, NBG's "equity position to unprovided NPLs" ratio was the highest in the sector during the same period. On the liquidity side, NBG possessed the lowest dependence on ELA with its "ELA to Assets" ratio standing at 2% versus 9%-12% for the competition, whereas the Bank had a "loans to deposits" ratio of around 95%-100% versus 120% for the competition.

### What Lies Ahead

**NBG has taken a number of positive steps in its effort to strengthen its capital base and improve its funding structure and liquidity position.** Such actions enable the Bank to cope with a number of issues expected to emerge in the following quarters. There will be a stress test on the Bank's assets performed by European banking authorities (namely the ESM) in the coming few months whereas its loan book should be adjusted or restated following the application of new strict regulations deriving from ECB initiatives as well as new requirements relating to the international financial reporting standards (IFRS 9). The new regulations will require higher provisions and even cash provisions for both the unsecured and the secured part of loans. There is currently low transparency on the precise effect of the above adjustments.

Furthermore, the restructuring of loans and the performance of the forbore ones is not expected to deliver especially strong results at least for the next couple of quarters given the prevailing macroeconomic conditions. Should NBG decide to rely on write-offs in order to attain its targets then loan loss provisions will most likely increase.

At the same time the political and economic environment is not so convincing to imply more favorable results from the Bank's restructuring efforts. This is reflected in both the performance of NPEs (new NPEs are being formed) as well as the course of deposits (deposits are only slowly increasing). Capital controls persist for third year in a row (they were put in place in June 2015) and are not expected to be lifted in the foreseeable future. This development limits the system's ability to retrieve the deposits that fled out of the country during the last crisis of 2015.

We cannot exclude the likelihood of some pressures on the Bank's stock price generated by the asset quality review and the stress tests performed by the ESM, as well as due domestic political and economic developments. Therefore NBG remains in defense of its capital base amid a fragile domestic macroeconomic environment but we must add that the Bank is better positioned than its peers to overcome these challenges.

**Finally we reiterate the view presented in our Greek banking sector note of September 2017 that in order to open a new "chapter" of sustainable bottom line profit growth, NBG will need to continue raising capital in the coming years. In this context a new recapitalization phase cannot be excluded.**

## Company Overview

NBG (National Bank of Greece) is one of the four systemic commercial banks in Greece and the largest in terms of market capitalization. It operates as commercial bank on stand-alone basis as well as via a group of companies in Greece and abroad. It possesses a workforce of over 11.8K employees. As of end 2017, the major shareholders of the Bank consisted of the Hellenic Financial Stability Fund (40.39%) and other legal and physical entities (58.61%).

## Greek Banking Sector

The NPLs cleanup and the new set of regulations are expected to be the dominant theme in the Greek banking sector in the period 2018-2019. The major task of the banking sector in Greece is to bring considerably down the amounts of NPEs with the SSM and the Bank of Greece having already approved a framework which calls for a cumulative reduction of ca. € 40 billion from 2016 to 2019. So far, the attainment of the interim targets has progressed according to the plan although it is mostly based on write-offs rather than restructuring (forborne loans).

According to Bank of Greece, NPEs declined by 5.5% in September 2017 compared to December 2016, whereas during 2017 the default rate dropped for the first time, although it continued to settle higher than the cure rate of loans. During the 9-month period of 2017, the Greek systemic banks achieved the required targets posting slightly better performance rates than the initial plan. At the same time though, the Greek banks presented estimates of higher inflows of new NPEs concerning the period June 2017 – December 2019 and of lower curing rates of loans, affected by the assumption of worsening macroeconomic conditions.

### Targets of Non-Performing Assets in the Greek Banking System (€ billion)

	June 2016	June 2017	Sept. 2017	Dec. 2017	March 2018	June 2018	Sept. 2018	Dec. 2018	Dec. 2019
Balance of NPEs	106.9	101.8	99.9	95.9	93.6	90.2	87.6	81.5	64.6
Balance of NPLs	78.3	72.8	70.2	65.9	63.9	60.6	58.0	52.0	38.6

Source: Bank of Greece

### Assumptions on the Evolution of NPEs (€ billion)

	Amounts
Balance of NPEs in June 2017	101.8
New NPEs	20.1
Reclassified into Performing	-21.1
Proceeds	-3.5
Liquidations	-10.6
Sales	-11.6
Write-offs	-10.6
Other	0.1
Balance of NPEs in 2019	64.6

Source: Bank of Greece

## Macroeconomic Environment

Greek economy is expected to post positive and somewhat accelerating GDP growth in the period 2018-2019 after many years of high volatility and fierce contraction in its key figures. Such a case will be a positive factor towards the gradual achievement of the Greek Banking sector's targets with regard to the NPLs balances.

GDP is expected to grow within the range of 0.5%-1.5% in 2018 and 1.0%-2.0% in 2019 with unemployment rate showing some signs of further improvement currently standing above 20%. Business confidence has demonstrated gradual gains although with some volatile interim periods whereas Greek economy's competitiveness has been brought to its highest level on post crisis basis. Fiscal discipline has solidified with the general government delivering surplus based budgets and bond yields on the 10-year government bond have reached their lowest post crisis levels. Also real estate prices are on an upward momentum since the year 2014 despite some setbacks from time to time.

GDP growth, unemployment and disposable income are the key indicators of the progress that can be achieved on the front of NPEs by the Greek banks. Any sustainable positive development in these indicators comprises a favorable factor for the curtailment of the non-performing exposures of the domestic banking system.

## Income Statement for the 9M Period 2017 – Q4 2017 Estimates

Source: NBG, VRS Estimates.

### NATIONAL BANK OF GREECE (NBG), Income Statement

Consolidated Financial Statements, IFRS (in EUR mil.)	9M 2016	Q4 2016	9M '17 / 9M '16 %	9M 2017	Q4 2017
Interest Income	1,511	613	-8%	1,387	457
Interest Expense	259	83	-25%	194	78
<b>Net Interest Income</b>	<b>1,252</b>	<b>530</b>	<b>-5%</b>	<b>1,193</b>	<b>379</b>
Net Interest Income / Interest Income	83%	86%		86%	83%
Fee & Commission Income (net) (1)	123	69	43%	176	20
Trading Income (2)	-78	-37	46%	-114	11
Other Operating Income (3)	-19	224	121%	-42	257
(1) + (2) + (3)	26	256	-23%	20	288
<b>Total Operating Income</b>	<b>1,278</b>	<b>786</b>	<b>-5%</b>	<b>1,213</b>	<b>667</b>
Personnel Expenses	489	247	-11%	433	193
G&A Expenses	203	121	-2%	198	110
Depreciation & Amortization	70	39	0%	70	40
Other Operating Expenses					
<b>Operating Expenses</b>	<b>762</b>	<b>407</b>	<b>-8%</b>	<b>701</b>	<b>342</b>
<b>Operating Profit</b>	<b>516</b>	<b>379</b>	<b>-1%</b>	<b>512</b>	<b>324</b>
Non Int. Exp. / Operating Income	60%	52%		58%	51%
Loan Loss Provisions	546	263	9%	594	170
Impairment Losses of Greek Government Bonds					
Net Extraordinaries + Extraord. Taxes	-2,890	-22	-98%	-47	47
<b>Profit Before Tax and Minority Interests</b>	<b>-2,920</b>	<b>94</b>	<b>-96%</b>	<b>-129</b>	<b>201</b>
Taxation	11	23	109%	23	-1
Effective Tax Rate	0%	24%		-18%	-1%
<b>Profit Before Minorities</b>	<b>-2,931</b>	<b>71</b>	<b>-95%</b>	<b>-152</b>	<b>202</b>
Less Minority Interests	28	-1	-7%	26	-16
<b>Net Profit</b>	<b>-2,959</b>	<b>72</b>	<b>-94%</b>	<b>-178</b>	<b>218</b>
Net Profit Margin	-232%	9%		-15%	33%

## Balance Sheet Accounts for the 9M Period 2017

Source: NBG, VRS Estimates.

<b>NATIONAL BANK OF GREECE (NBG), Balance Sheet</b>			
Consolidated Financial Statements, IFRS (in EUR mil.)	<b>31/12/2016</b>	<b>9M '17 / 9M '16 %</b>	<b>9M 2017</b>
Total Assets	78,531	-16%	65,843
<b>Interest - Earning Assets (year-end)</b>	<b>58,631</b>	-21%	<b>46,202</b>
As % of Total Assets	75%		70%
<b>Interest - Bearing Liabilities (year-end)</b>	<b>59,320</b>	-17%	<b>49,111</b>
As % of Total Assets	76%		75%
Gross Loans	53,100	-8%	48,972
Impairments	11,457	-5%	10,900
Net Loans	41,643	-9%	38,072
As % of Interest Earning Assets	71%		82%
Deposits	40,459	-4%	38,795
As % of Interest Bearing Liabilities	68%		79%
Equity (excluding Minorities)	6,907	-2%	6,757
Equity (including Minorities)	7,587	-2%	7,426

## Income Statement

Source: NBG, VRS Estimates.

## NATIONAL BANK OF GREECE (NBG), Income Statement

Consolidated Financial Statements, IFRS (in EUR mil.)

	2010	%	2011	%	2012	%	2013	%	2014	%	2015	%	2016	%	2017	%	2018	%	2019
Interest Income	6,402	3%	6,587	-5%	6,230	-11%	5,520	-47%	2,902	-18%	2,381	-11%	2,124	-13%	1,844	-1%	1,831	7%	1,959
Interest Expense	2,254	22%	2,744	4%	2,865	-18%	2,363	-62%	904	-32%	616	-44%	342	-21%	272	-8%	250	3%	257
<b>Net Interest Income</b>	<b>4,148</b>	<b>-7%</b>	<b>3,843</b>	<b>-12%</b>	<b>3,365</b>	<b>-6%</b>	<b>3,157</b>	<b>-37%</b>	<b>1,998</b>	<b>-12%</b>	<b>1,765</b>	<b>1%</b>	<b>1,782</b>	<b>-12%</b>	<b>1,572</b>	<b>1%</b>	<b>1,582</b>	<b>8%</b>	<b>1,701</b>
Net Interest Income / Interest Income	65%		58%		54%		57%		69%		74%		84%		85%		86%		87%
Fee & Commission Income (net) (1)	610	-19%	494	0%	495	7%	529	-74%	139	-68%	44	336%	192	2%	196	2%	200	2%	204
Trading Income (2)	-138	-80%	-28	1455%	-431	-78%	-95	97%	-187	-60%	-74	55%	-115	-10%	-104	-10%	-93	-10%	-84
Other Operating Income (3)	20	217%	63	56%	98	84%	180	-37%	114	-61%	45	356%	205	5%	215	5%	226	5%	237
(1) + (2) + (3)	492	8%	529	-69%	162	279%	614	-89%	66	-77%	15	1780%	282	9%	308	8%	333	7%	357
<b>Total Operating Income</b>	<b>4,639</b>	<b>-6%</b>	<b>4,372</b>	<b>-19%</b>	<b>3,527</b>	<b>7%</b>	<b>3,771</b>	<b>-45%</b>	<b>2,064</b>	<b>-14%</b>	<b>1,780</b>	<b>16%</b>	<b>2,064</b>	<b>-9%</b>	<b>1,880</b>	<b>2%</b>	<b>1,914</b>	<b>8%</b>	<b>2,058</b>
Personnel Expenses	1,530	6%	1,616	-15%	1,380	11%	1,530	-47%	816	-7%	762	-3%	736	-15%	626	3%	644	4%	670
G&A Expenses	782	-8%	721	2%	733	11%	811	-50%	409	-16%	342	-5%	324	-5%	308	2%	314	3%	323
Depreciation & Amortization	227	0%	226	2%	231	-2%	226	-45%	125	-11%	111	-2%	109	1%	110	1%	111	2%	113
Other Operating Expenses	14	-49%	7	-100%	0		0						0		0		0		0
<b>Operating Expenses</b>	<b>2,553</b>	<b>1%</b>	<b>2,571</b>	<b>-9%</b>	<b>2,344</b>	<b>10%</b>	<b>2,567</b>	<b>-47%</b>	<b>1,350</b>	<b>-10%</b>	<b>1,215</b>	<b>-4%</b>	<b>1,169</b>	<b>-11%</b>	<b>1,043</b>	<b>2%</b>	<b>1,070</b>	<b>3%</b>	<b>1,107</b>
<b>Operating Profit</b>	<b>2,086</b>	<b>-14%</b>	<b>1,801</b>	<b>-34%</b>	<b>1,183</b>	<b>2%</b>	<b>1,204</b>	<b>-41%</b>	<b>714</b>	<b>-21%</b>	<b>565</b>	<b>58%</b>	<b>895</b>	<b>-7%</b>	<b>836</b>	<b>1%</b>	<b>845</b>	<b>13%</b>	<b>951</b>
Non Int. Exp. / Operating Income	55%		59%		66%		68%		65%		68%		57%		56%		56%		54%
Loan Loss Provisions	1,450	137%	3,439	-14%	2,966	-54%	1,373	84%	2,523	65%	4,175	-81%	809	-61%	764	-65%	268	18%	317
Impairment Losses of Greek Government Bonds	0		11,783		187		0		0		0		0		0		0		0
Net Extraordinaries + Extraord. Taxes	2		1		-3		-10		309		-1,588		-2,912		0		0		0
<b>Profit Before Tax and Minority Interests</b>	<b>638</b>		<b>-13,420</b>		<b>-1,973</b>		<b>-179</b>		<b>-1,500</b>		<b>-5,198</b>		<b>-2,826</b>		<b>72</b>	700%	<b>576</b>	10%	<b>634</b>
Taxation	197		-1,095		158		-986		-1,606		-1,000		34		22	700%	173	10%	190
Effective Tax Rate	31%													30%		30%			30%
<b>Profit Before Minorities</b>	<b>440</b>		<b>-12,325</b>		<b>-2,131</b>		<b>807</b>	-87%	<b>106</b>		<b>-4,198</b>		<b>-2,860</b>		<b>50</b>	700%	<b>403</b>	10%	<b>444</b>
Less Minority Interests	35		19		-4		-2	-2100%	40		29		27		10	0%	10	0%	10
<b>Net Profit</b>	<b>406</b>		<b>-12,344</b>		<b>-2,127</b>		<b>809</b>	-92%	<b>66</b>		<b>-4,227</b>		<b>-2,887</b>		<b>40</b>	873%	<b>393</b>	10%	<b>434</b>
Net Profit Margin	9%		-282%		-60%		21%		3%		-237%		-140%		2%		21%		21%

## Operating Income Breakdown / Operating Cost Breakdown

Source: NBG, VRS Estimates.

### NATIONAL BANK OF GREECE (NBG), Operating Income Breakdown (%)

Consolidated Financial Statements, IFRS	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Net Interest Income	89%	88%	95%	84%	97%	99%	86%	84%	83%	83%
Fee & Commission Income	13%	11%	14%	14%	7%	2%	9%	10%	10%	10%
Trading Income	-3%	-1%	-12%	-3%	-9%	-4%	-6%	-6%	-5%	-4%
Other Operating Income	0%	1%	3%	5%	6%	3%	10%	11%	12%	12%
<b>Total Operating Income</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

### NATIONAL BANK OF GREECE (NBG), Operating Cost Breakdown (%)

Consolidated Financial Statements, IFRS	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Personnel Expenses	60%	63%	59%	60%	60%	63%	63%	60%	60%	61%
G & A Expenses	31%	28%	31%	32%	30%	28%	28%	29%	29%	29%
Depreciation	9%	9%	10%	9%	9%	9%	9%	11%	10%	10%
<b>Operating Expenses</b>	<b>99%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Note: Percentages may not add due to rounding.

## Balance Sheet

Source: NBG, VRS Estimates.

## NATIONAL BANK OF GREECE (NBG), Balance Sheet

Consolidated Financial Statements, IFRS (in EUR mil.)	2010	%	2011	%	2012	%	2013	%	2014	%	2015	%	2016	%	2017	%	2018	%	2019
Total Assets	120,745	-12%	106,732	-2%	104,798	6%	110,930	4%	115,212	-4%	111,175	-29%	78,531	-15%	66,751	1%	67,419	1%	68,093
<b>Interest - Earning Assets (year-end)</b>	<b>102,674</b>	<b>-13%</b>	<b>89,503</b>	<b>-3%</b>	<b>87,197</b>	<b>4%</b>	<b>90,661</b>	<b>0%</b>	<b>90,556</b>	<b>-26%</b>	<b>66,777</b>	<b>-12%</b>	<b>58,631</b>	<b>-20%</b>	<b>46,726</b>	<b>1%</b>	<b>47,193</b>	<b>2%</b>	<b>48,346</b>
As % of Total Assets	85%		84%		83%		82%		79%		60%		75%		70%		70%		71%
Average Interest - Earning Assets	100,758	-5%	96,088	-8%	88,350	1%	88,929	2%	90,609	-13%	78,667	-20%	62,704	-16%	52,678	-11%	46,960	2%	47,770
<b>Interest - Bearing Liabilities (year-end)</b>	<b>101,370</b>	<b>-4%</b>	<b>97,092</b>	<b>-1%</b>	<b>96,465</b>	<b>-2%</b>	<b>94,579</b>	<b>-2%</b>	<b>93,146</b>	<b>-26%</b>	<b>69,377</b>	<b>-14%</b>	<b>59,320</b>	<b>-17%</b>	<b>49,396</b>	<b>2%</b>	<b>50,564</b>	<b>4%</b>	<b>52,432</b>
As % of Total Assets	84%		91%		92%		85%		81%		62%		76%		74%		75%		77%
Average Interest - Bearing Liabilities	98,646	1%	99,231	-2%	96,778	-1%	95,522	-2%	93,863	-13%	81,262	-21%	64,349	-16%	54,358	-8.05%	49,980	3.04%	51,498
Gross Loans	80,823	-3%	78,616	-2%	76,905	-1%	76,103	3%	78,683	-26%	58,218	-9%	53,100	-9%	48,200	2%	49,300	3%	51,000
Impairments	3,562	100%	7,120	9%	7,770	14%	8,853	19%	10,574	21%	12,843	-11%	11,457	7%	12,221	2%	12,489	3%	12,807
Net Loans	77,262	-7%	71,496	-3%	69,135	-3%	67,250	1%	68,109	-33%	45,375	-8%	41,643	-14%	35,979	2%	36,811	4%	38,193
As % of Interest Earning Assets	75%		80%		79%		74%		75%		68%		71%		77%		78%		79%
Deposits	68,039	-12%	59,544	-1%	58,722	7%	62,876	3%	64,929	-34%	42,959	-6%	40,459	-4%	39,023	2%	39,946	4%	41,421
As % of Interest Bearing Liabilities	67%		61%		61%		66%		70%		62%		68%		79%		79%		79%
Equity (excluding Minorities)	9,655	-107%	-723	216%	-2,284	-411%	7,111	35%	9,612	-5%	9,099	-24%	6,907	1%	6,950	4%	7,225	4%	7,529
Equity (including Minorities)	10,905	-102%	-253	707%	-2,042	-486%	7,874	33%	10,466	-6%	9,824	-23%	7,587	1%	7,630	4%	7,905	4%	8,209

Note: Interest – Earning Assets consist of Amounts due from banks, Financial assets at fair value through P&L, Investment securities, and Loans and advances to customers.  
Interest – Bearing Liabilities consist of Amounts due to banks, Amounts due to customers, Debt securities in issue, and Other borrowed funds.

## Financial Ratios

Source: NBG, VRS Estimates.

**NATIONAL BANK OF GREECE (NBG),** Financial Ratios

Consolidated Financial Statements, IFRS	2010	2011	2012	2013	2014	2015	%	2016	%	2017	%	2018	%	2019
Net Interest Margin	3.44%	3.60%	3.21%	2.85%	1.73%	1.59%		2.27%		2.35%		2.35%		2.50%
Net Interest Margin (as % of avg assets)	3.54%	3.38%	3.18%	2.93%	1.77%	1.56%		1.88%		2.16%		2.36%		2.51%
Net Interest Income / Total Income	89.41%	87.90%	95.41%	83.72%	96.80%	99.16%		86.34%		83.63%		82.62%		82.64%
Total Costs / Total Income	55.03%	58.81%	66.46%	68.07%	65.41%	68.26%		56.64%		55.52%		55.87%		53.78%
Total Costs / Total Income (excluding trading inc.)	53.44%	58.44%	59.22%	66.40%	59.97%	65.53%		53.65%		52.62%		53.28%		51.67%
Total Costs / Avg. Assets	2.18%	2.26%	2.22%	2.38%	1.19%	1.07%		1.23%		1.44%		1.59%		1.63%
Operating Burden (in EUR mil.)	-2,062	-2,042	-2,182	-1,953	-1,284	-1,200		-887		-736		-737		-750
Burden (as % of avg assets)	-1.76%	-1.80%	-2.06%	-1.81%	-1.14%	-1.06%		-0.94%		-1.01%		-1.10%		-1.11%
Burden excl. Trading Income (as % of avg assets)	-1.64%	-1.77%	-1.66%	-1.72%	-0.97%	-0.99%		-0.81%		-0.87%		-0.96%		-0.98%
Loan Loss Provisions / Avg. Net Loans	1.91%	4.62%	4.22%	2.01%	3.73%	7.36%		1.86%		1.97%		0.74%		0.85%
Loan Loss Provisions / Avg. Assets	1.24%	3.02%	2.80%	1.27%	2.23%	3.69%		0.85%		1.05%		0.40%		0.47%
Tax Rate	30.93%	n/c	n/c	n/c	n/c	n/c		n/c		30.00%		30.00%		30.00%
Dividend Payout	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		0.00%		30.00%		30.00%		30.00%
ROE	4.20%	n/c	n/c	11.38%	0.69%	n/c		n/c		0.58%		5.45%		5.76%
ROE average	4.48%	n/c	n/c	n/c	0.79%	n/c		n/c		0.58%		5.55%		5.88%
ROA	0.34%	n/c	n/c	0.73%	0.06%	n/c		n/c		0.06%		0.58%		0.64%
ROA average	0.35%	n/c	n/c	0.75%	0.06%	n/c		n/c		0.06%		0.59%		0.64%

Note: Net Profit (EATAM) and Equity in 2011 and 2012 were negative. EATAM was also negative in 2015 and 2016.

## Balance Sheet and Profitability Ratios

Source: NBG, VRS Estimates.

### NATIONAL BANK OF GREECE (NBG), Balance Sheet Ratios

Consolidated Financial Statements, IFRS	2010	2011	2012	2013	2014	2015	%	2016	%	2017	%	2018	%	2019
Equity / Loans	12.50%	n/c	n/c	10.57%	14.11%	20.05%		16.59%		19.32%		19.63%		19.71%
Loans / Assets	63.99%	66.99%	65.97%	60.62%	59.12%	40.81%		53.03%		53.90%		54.60%		56.09%
Deposits / Assets	56.35%	55.79%	56.03%	56.68%	56.36%	38.64%		51.52%		58.46%		59.25%		60.83%
Equity / Assets	8.00%	-0.68%	-2.18%	6.41%	8.34%	8.18%		8.80%		10.41%		10.72%		11.06%
Loans / Deposits	113.56%	120.07%	117.73%	106.96%	104.90%	105.62%		102.93%		92.20%		92.15%		92.21%
Capital Adequacy Ratio	12.00%	6.30%	7.80%	10.30%	10.30%	14.50%		16.30%		<b>16.80%</b>		<b>15.00%</b>		<b>14.00%</b>

### NATIONAL BANK OF GREECE (NBG), Profitability Ratios

Consolidated Financial Statements, IFRS	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
ROA, Average Assets	0.35%	n/c	n/c	0.75%	0.06%	n/c	n/c	0.06%	0.59%	0.64%
ROE, Average Equity	4.48%	n/c	n/c	n/c	0.79%	n/c	n/c	0.58%	5.55%	5.88%
Return on Avg. Interest Earning Assets	6.35%	6.85%	7.05%	6.21%	3.20%	3.03%	3.39%	3.50%	3.90%	4.10%
Cost of Avg. Interest Bearing Liabilities	2.29%	2.76%	2.96%	2.47%	0.96%	0.76%	0.53%	0.50%	0.50%	0.50%
Yield Spread	4.07%	4.09%	4.09%	3.73%	2.24%	2.27%	2.86%	3.00%	3.40%	3.60%

Note: Net Profit (EATAM) and Equity in 2011 and 2012 were negative. EATAM was also negative in 2015 and 2016.

## Loan Quality

Source: NBG, VRS Estimates.

### NATIONAL BANK OF GREECE (NBG), Loan Quality

Consolidated Financial Statements, IFRS	2010	%	2011	%	2012	%	2013	%	2014	%	2015	%	2016	%	2017	%	2018	%	2019
Loan Loss Provisions / Total Gross Loans	2%		4%		4%		2%		3%		7%		2%		2%		1%		1%
Loan Loss Provisions / Total Net Loans	2%		5%		4%		2%		4%		9%		2%		2%		1%		1%
Loan Loss Provisions / NPLS	22%		39%		23%		9%		12%		27%		6%		6%		2%		3%
Loan Impairments / Total Gross Loans	4%		9%		10%		12%		13%		22%		22%		25%		25%		25%
Loan Impairments / Total Net Loans	5%		10%		11%		13%		16%		28%		28%		34%		34%		34%
Loan Impairments / NPLS (Coverage Ratio)	54%		80%		59%		59%		50%		83%		83%		100%		103%		105%
Total NPLs / Gross Loans	8.50%		12.40%		19.00%		22.50%		31.30%		34.00%		33.00%		34.10%		33.00%		32.00%
Total NPLs (in EUR mil.)	6,567	35%	8,866	48%	13,136	15%	15,131	41%	21,318	-28%	15,428	-11%	13,742	-11%	12,269	-1%	12,148	1%	12,222
Loan Loss Provisions (in EUR mil.)	1,450	137%	3,439	-14%	2,966	-54%	1,373	84%	2,523	65%	4,175	-81%	809	-6%	764	-65%	268	18%	317

## Valuation Ratios

Source: NBG, VRS Estimates.

### NATIONAL BANK OF GREECE (NBG), Valuation Ratios

Consolidated Financial Statements, IFRS	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
P/E Ratio (Current No. of Shares)	0.83	n/c	n/c	1.04	18.74	n/c	n/c	79.20	8.14	7.38
P/E Ratio (Weighted No. of Shares, Adjusted)	0.66	n/c	n/c	0.60	16.56	n/c	n/c	79.20	8.14	7.38
Price / Operating Profit Ratio (Weighted No. of Shares, Adj.)	0.13	0.19	0.28	0.40	1.53	5.35	3.58	3.83	3.79	3.37
P/BV (Weighted No. of Shares, Adjusted)	0.03	n/c	n/c	0.07	0.11	0.33	0.46	0.46	0.44	0.43
Dividend Yield	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.38%	3.69%	4.07%

### NATIONAL BANK OF GREECE (NBG), Per Share Data

Consolidated Financial Statements, IFRS	2010	%	2011	%	2012	%	2013	%	2014	%	2015	%	2016	%	2017	%	2018	%	2019
Current No. of Ordinary Shares Outstanding (in mn)	956		956		956		2,397		3,533		8,633		9,146		9,147		9,147		9,147
Weighted Avg No. of Shares as Adjusted (in mn)	762		955		956		1,387		3,123		8,633		9,146		9,147		9,147		9,147
EPS (Current Number of Shares) (in EUR)	0.42		n/c		n/c		0.34	-94%	0.02		n/c		n/c		0.00	873%	0.04	10%	0.05
EPS (Weighted No. of Shares as Adjusted) (in EUR)	0.53		n/c		n/c		0.58	-96%	0.02		n/c		n/c		0.00	873%	0.04	10%	0.05
Book Value per Share (Current No. of Shares) (in EUR)	10.10		n/c		n/c		2.97	-8%	2.72	-61%	1.05	-28%	0.76	9%	0.76	4%	0.79	4%	0.82
Book Value per Share (Adjusted) (in EUR)	12.67		n/c		n/c		5.13	-40%	3.08	-66%	1.05	-28%	0.76	9%	0.76	4%	0.79	4%	0.82
Dividend to Ordinary Shares (in EUR)	0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00	873%	0.01	10%	0.01
Date															12/1/2018				
Share Price (in EUR)																			0.35
Market Capitalization (in EUR mn)																			3,202

Note: P/E, P/BV ratios and dividend yield are based on current stock price and historic EPS and DPS respectively. Historic EPS is based on current number of shares and on adjusted number of shares.

## NBG Stock

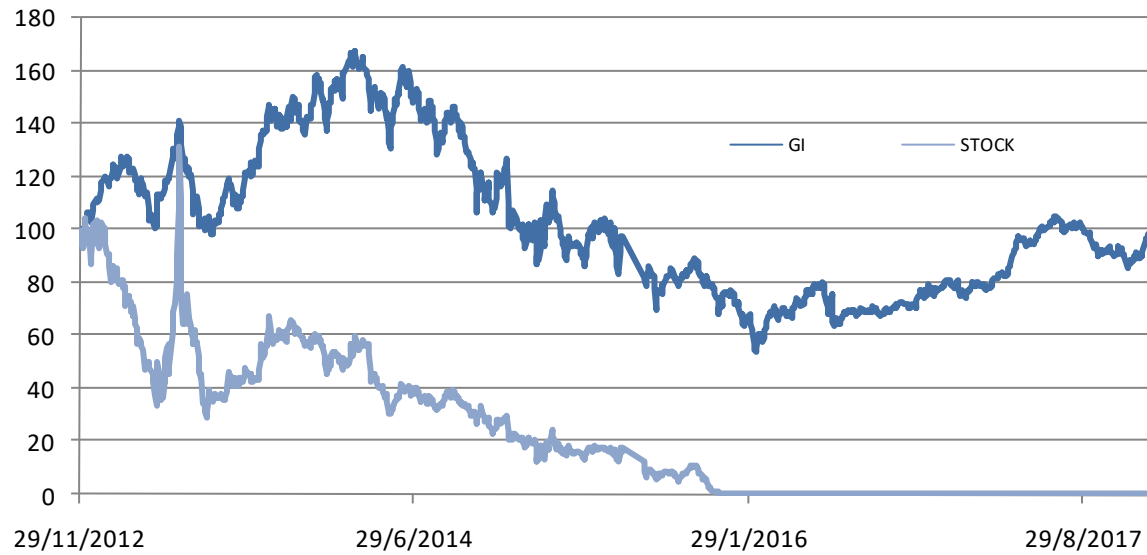
Last 5 Years | € (Euro)



Source: Athens Exchange, Greece.

### NBG Stock versus Athens Exchange General Index

Last 5 Years | Basis = 100



Source: Athens Exchange, Greece.

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**DISCLOSURE STATEMENT (1)**

VALUATION & RESEARCH SPECIALISTS (VRS) is an independent firm providing advanced equity research, quality valuations and value-related advisory services to local and international business entities and / or communities. VRS services include valuations of intangible assets, business enterprises, and fixed assets. VRS’s focus business is in providing independent equity research to its institutional and retail clients / subscribers.

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**DISCLOSURE CHECKLIST**

Covered Company	Bloomberg	Reuters	Stock Price	Date	Disclosure
NBG S.A.	ETE:GA	NBGr.AT	€ 0.35	January 12, 2018	6

1. VRS has acted as financial consultant for the covered company within the past 24 months.
2. VRS has sent the research report to the covered company, prior to publication or dissemination, for factual verification.
3. VRS has changed the contents of the initially sent report, with respect to: only factual changes have been made.
4. VRS has received compensation from the covered company for the preparation of this research report.
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