TENTH SUPPLEMENT DATED 15 JUNE 2015 TO THE BASE PROSPECTUS DATED 9 APRIL 2009

NATIONAL BANK OF GREECE S.A.

(incorporated with limited liability in the Hellenic Republic)

€25,000,000,000 Medium Term Note Programme

unconditionally and irrevocably guaranteed by the Hellenic Republic

This Tenth Supplement (the **Supplement**) to the Information Memorandum (the **Information Memorandum**) dated 9 April 2009, as previously supplemented by the supplements dated 22 April 2010, 4 May 2010, 17 December 2010, 20 May 2011, 15 April 2013, 12 May 2014, 5 January 2015, 26 March 2015 and 14 May 2015, is prepared in connection with the Medium Term Note Programme (the **Programme**) established by National Bank of Greece S.A. (the **Issuer** or the **Bank**) and unconditionally and irrevocably guaranteed by the Hellenic Republic (the **Guarantor**). Terms defined in the Information Memorandum have the same meaning when used in this Supplement.

This Supplement constitutes a Supplement to, and should be read in conjunction with, the Information Memorandum issued by the Issuer and the supplements dated 22 April 2010, 4 May 2010, 17 December 2010, 20 May 2011, 15 April 2013, 12 May 2014, 5 January 2015, 26 March 2015 and 14 May 2015. This Supplement does not comprise a supplementary prospectus for the purposes of section 87G of the Financial Services and Markets Act 2000.

The Issuer accepts responsibility for the information contained in this Supplement. To the best of the knowledge of the Issuer (which has taken all reasonable care to ensure that such is the case) the information contained in this Supplement is in accordance with the facts and contains no omissions likely to affect its import.

Statement regarding the fiscal position of the Hellenic Republic

In deciding whether or not to purchase or subscribe for Notes, prospective investors should be aware of recent statements by the Greek Government in relation to the fiscal position of the Guarantor and proposals to address its present challenges.

Recent Macroeconomic Developments

Following the Hellenic Republic's sovereign debt crisis beginning in 2009 and the sharp deterioration in financial and macroeconomic conditions, a financial support mechanism was activated in May 2010, jointly supported by the International Monetary Fund (**IMF**) and Eurozone Member States, with terms extending through 2015 conditioned on the implementation of a very demanding economic adjustment programme. Following the government debt restructuring in February 2012, a second programme of economic support for Greece was agreed with the IMF, the European Central Bank (**ECB**) and the EU (collectively, the **Institutions**), with terms extending through 2016 and conditioned on the imposition of fiscal and structural adjustment policies (the **Hellenic Programme**).

The main policies of the economic adjustment programmes are aimed at eliminating the significant deficits in the government budget and the current account balance, and addressing significant structural deficiencies in the Greek economy. The impact of the programmes in terms of losses in production, employment and disposable income has been very high by historical standards, as the existing structural inflexibilities and the short period over which the adjustment policies have been implemented have amplified the recessionary impact and social costs of the austerity measures.

The intensity of economic adjustment had also been compounded by a high level of uncertainty, resulting in a sharp contraction of GDP that reached -26% in the 2008-13 period.

In 2014, following six consecutive years of severe contraction, Greece's economy has begun to grow since Q2:2014 and gained further momentum in H2:2014 (+1.4% y-o-y) (*Source*: ELSTAT data). Real GDP increased by 0.8% y-o-y in FY 2014 (*Source*: ELSTAT data), supported mainly by rising private consumption (+1.4% y-o-y in FY 2014), the strong performance of tourism sector (an annual increase of +10.2% y-o-y in tourism revenue) (*Source*: Bank of Greece Data) and positive, albeit relatively slower, growth of goods exports (+5.1% in volumes, in FY:2014). Moreover business investment has picked up offsetting the drag from the continuing sharp drop in residential investment, permitting economy-wide gross fixed capital formation entering positive growth territory since Q3:2014 (+2.1% y-o-y in FY:2014 in constant prices) (*Source*: ELSTAT data).

Overall, private consumption was a key contributor to GDP growth (+1.4% y-o-y in FY 2014 compared to - 2.2% y-o-y in FY:2013), supported by the gradual improvement in labour market conditions (employment growth of 0.6% in FY:2014) (*Source*: ELSTAT data), the notable slowing in wage adjustment, following a sharp cumulative decline in economy-wide nominal average wage of -20.9% since 2009 (*Source*: Bank of Greece Governor's Annual Report, February 2015), and steadily improving consumer confidence for the most part of the year. Employment growth has entered positive territory in Q2:2014 and gained traction in H2:2014 supported by the buoyancy of demand in tourism sector and related activities. Unemployment rate remains very high but has followed a downward trend since October 2013 falling to 25.9% in December 2014 and to 25.6% in Q1:2015 (*Source*: ELSTAT data).

Business investment (excluding residential construction) showed a significant improvement increasing by +18.4% y-o-y (*Source*: ELSTAT data) in 2014 supported by the pick-up in consumption, accelerating tourism activity and improving external demand (especially in H2:2014). On the other hand, the free fall in residential investment continued (-51.5% y-o-y in FY:2014, from -27.7% y-o-y in FY:2013) and the annual drop in house prices reached -7.4%, on average, in FY:2014, showing signs of further slowing in Q4:2014 and Q1:2015 (-5.4% y-o-y and -3.9% y-o-y, respectively) (*Source*: Bank of Greece, Bulletin of conjunctural indicators).

External adjustment continued in 2014 with the current account balance (*Source*: Bank of Greece Bulletin of conjunctural indicators) registering the second consecutive surplus of 0.9% of GDP on the back of very strong tourism receipts (+10.2% y-o-y in FY:2014) and positive goods exports (+5.2% y-o-y in FY:2014). An increase in tourism revenue and a sharp reduction in oil trade deficit was registered in Q1:2015, albeit lower revenue from current transfers from abroad (mainly EU funds) led to an increase in current account deficit in Q1:2015 (to -1.2% of GDP, compared with -0.6% in Q1:2014). The solid gains in cost competitiveness following 6 years of sharp adjustment in average nominal wages of almost -20.9%, are reflected at the cumulative decline of unit labour cost by 18.7% in the period 2010-2014 (*Source*: Bank of Greece, Governor's Annual Report, February 2015).

However, increasing uncertainty about the modalities of a potential exit from the existing financial support programme for Greece upon completion of the EU financial participation in the Hellenic Programme, in conjunction with the early election in January 2015 and elevated sovereign debt servicing needs in Q2 and Q3:2015, have taken a negative toll on economic sentiment in late 2014 and H1:2015 (*Source*: EU Commission data).

GDP growth has lost further steam in Q1:2015 slowing to 0.4% y-o-y (-0.2% q-o-q s.a.) as the solid contribution of domestic demand to GDP growth (+3.1% y-o-y) has been largely offset by a 2.8 pps drag on activity from net exports due to higher import of primary materials and capital equipment. Forward looking indicators point to a further weakening in economic activity in Q2:2015, while the prospective turning point for activity is estimated in H2:2015, assuming the completion of an agreement with official lenders in Q3:2015, which is expected to be accompanied by the resolution of uncertainty regarding the ability of the Greek State to service its external debt servicing obligations.

Inflation remained in negative territory (CPI: -1.3% y-o-y and GDP deflator -2.6% in FY 2014) (*Source*: ELSTAT data) with falling oil and other commodity prices in H2:2014 feeding into the continuing disinflationary process that begun in 2013. In this vein nominal GDP declined by 1.8% in 2014 as the 2.6% decline in GDP deflator offset the +0.8% increase in real GDP. In the first five months of 2015, consumer

prices continued to contract by 2.3% y-o-y, on average, on the back of falling energy prices (-15.3% y-o-y in the same period) (*Source*: ELSTAT data).

Government budget implementation remained broadly on track for the most part of 2014 (*Source*: Greek Ministry of Finance monthly press releases), however an increasing revenue shortfall due to the delayed implementation of the new law for settlement of tax and social security contributions' arrears (Law 4321/2015 published in Government Gazette No A 32/21.3.2015) and moral hazard related to the snap election of January 2015, have weakened fiscal performance since September 2014. In FY 2014, the weaker than budgeted revenue performance and continued tensions in social security system financing have been only partly offset by further cuts in primary spending. Annual fiscal data disseminated from ELSTAT to Eurostat in April 2015 indicates a primary surplus of 0.4% of GDP in the general government budget in FY 2014 on the basis of Eurostat's ESA 2010 regulation (not fully aligned with the Programme definition), compared to the Hellenic Programme target of 1.5% of GDP. The state budget maintains a primary surplus of 0.6% of GDP, on the back of additional spending cuts that compensated for the continuing shortfall in tax revenue. However, the financial position of the other government entities has deteriorated considerably in the same period.

The general government's debt-to-GDP ratio stabilised close to 177.1% in 2014 (*Source*: ELSTAT press release on 2011-2014 Fiscal Data, April 2015). Favourable interest rates together with the back-loaded payment schedule for loans from the European Financial Stability Facility (**EFSF**) will help to keep interest expenditure low for a long period, despite the still high stock of debt. However, the prospective downward revision of the Programme target for a primary surplus of 2.9% of GDP in 2015 to $1-1\frac{1}{2}$ % of GDP along the lines of the Eurogroup agreement of 20 February 2015 in conjunction with lower growth in nominal GDP -- partly due to sharper than expected disinflation -- could delay the return of public debt to a sustainable downward trajectory by about one year.

Liquidity conditions showed signs of improvement in 10M:2014, especially in the deposit segment (increase of private deposits of +5.9% or €10 billion from the lows of June 2012) while 10-year Greek Government bond yields fell to below 6.0% in September 2014 for the first time in $4\frac{1}{2}$ years, supported by a further loosening of monetary policy conditions in the euro area. However, the Greek economy experienced a sharp deterioration of financial market sentiment since the fourth quarter of 2014, reflecting political uncertainty and on-going discussions on the evolution of Greece's relationship with its official lenders and the timing and characteristics of Greece's exit from the current economic support programme.

The deleveraging process continued at a slowing pace during 2014, with business and household lending declining by 3.3% and 2.9%, respectively, in December 2014 (*Source*: Bank of Greece, Bulletin of Conjunctural Indicators), and the peak-to-date adjustment in outstanding private-sector credit in gross terms amounting to 16.5% since 2009 (*Source*: Bank of Greece, Bulletin of Conjunctural Indicators).

On 8 December 2014, the Eurogroup agreed to withhold the disbursements due under the Hellenic Programme and announced a "technical extension" of the EU side of the Hellenic Programme, initially set to be completed by the end of 2014, to end February 2015.

Greek parliamentary elections held on 25 January 2015 resulted in the formation of a new coalition government, with a parliamentary majority comprising the left wing party Syriza (149 seats) and the right wing party Independent Greeks (13 seats). The new Greek government has expressed its intention to attempt a renegotiation of Greece's relation with its official creditors, and to negotiate additional debt relief from the official sector, in conjunction with lower debt servicing costs.

On 4 February 2015, the ECB announced its decision to lift the waiver affecting marketable debt instruments issued or fully guaranteed by the Hellenic Republic, which had allowed these instruments to be used in Eurosystem monetary policy operations despite the fact that they did not fulfil minimum credit rating requirements.

On 20 February 2015, the Eurogroup agreed to a four-month extension of the Master Financial Assistance Facility Agreement (**MFFA**) underpinning the Hellenic Programme. Pursuant to the agreement to extend the

MFFA, the Greek government presented a list of reform measure proposals, which was to be agreed with the Institutions by the end of April 2015. However, no final agreement has been reached yet; the negotiations continue to take place and the reform measure proposals have not yet been approved.

An agreement between the Greek government and the Institutions on the framework and conditionality that is going to underlie their relation in the near term as well as in following years is a precondition for:

- Greek banks to continue using Greek government bonds and government guaranteed instruments as collateral for ECB refinancing operations (to the extent available to Greek banks) and/or accessing Emergency Liquidity Assistance (ELA), as well as to allow the ECB to buy Greek asset-backed securities and covered bonds in the context of its increasingly expansionary monetary policy strategy;
- the Greek state to cover its financing needs through 2015, while gradually accessing the markets at improving terms to finance itself;
- the Greek state to be able to, eventually, directly benefit from the ECB's newly-announced "quantitative easing" plans to buy sovereign bonds from the secondary markets; and
- a further relief on Greek government debt along the lines of Eurogroup agreement of November 2012 being provided.

The delay in reaching an agreement as regards the conditions underlying the disbursement of about \notin 7.3 billion of related financing from the EU and the IMF, in conjunction with uncertainty surrounding the potential modalities of Greece's exit from the current MoU-based financial support agreement, and the potential activation of a new financing agreement that will minimise the external financing risks for the Greek state in the near to medium term, have resulted in a further weakening of financial market sentiment in 5M:2015.

The Greek Government faces significant short-term liquidity challenges in Q2 and Q3:2015 since an agreement with official creditors for the disbursement of remaining program funding has not been reached as of early June 2015, and the characteristics of Greece's relation with its official lenders, following the expiration of the current memorandum of understanding with the EU, have not yet been crystallised. This delay is likely to take an increasing toll on macroeconomic conditions in FY:2015. Moreover, a credible agreement on the issues that underlie Greece's relation with official creditors, long term funding and/or the provision of a financial backstop and further reduction of long term debt servicing costs, are important challenges that have to be addressed by mid-2015.

Accordingly, Greek 10-year government bond yields climbed to above 11.2% in June 2015 from 5.9% in September 2014 and total deposits in the Greek banking system declined by \in 36.6 billion between November 2014 and April 2015 (*Source*: Bank of Greece, banking system database). As a result, Greek banks' dependence on the Eurosystem climbed rapidly to above \in 112.8 billion in April 2015, of which \in 74.4 billion corresponded to the emergency liquidity assistance mechanism (**ELA**). In September 2014, total Eurosystem dependence was \notin 42.6 billion, which was almost exclusively related to the ECB.

A standstill in negotiations with official creditors and/or delays in, or reversal of, the structural reform programme and a weakening in fiscal performance could lead to a further deterioration of liquidity conditions and economic sentiment which would, in turn, damage near and medium-term growth prospects for the economy and, thus, the Greek State's creditworthiness. In this event, the Greek Government could be unable to service its external debt (in particular, the $\notin 6.7$ billion of Greek sovereign bonds held by the Eurosystem that mature in July and August 2015 and the $\notin 5.2$ billion of loan repayments to IMF between June and December 2015) (*Source*: Greek PDMA and Bloomberg). Such a development could bring the country in default status and force the ECB to interrupt or freeze the access of the Greek banking system to Eurosystem financing, potentially leading to the activation of capital controls.

Accordingly, the favourable sequence of sovereign ratings upgrades that had commenced in early 2013 was paused, and ultimately reversed course, in end-2014 and early 2015, against a backdrop of sharply increasing uncertainty and deteriorating financial and fiscal conditions. Accordingly, Fitch Ratings revised the Hellenic Republic's sovereign outlook to negative from stable in January 2015 and eventually downgraded Greece's sovereign ratings by two notches - to 'CCC' from 'B' - on 27 March 2015. S&P lowered Greece's long-term rating by one notch to "B-" in February 2015 and placed the country on a credit watch negative status, which was renewed in March 2015 citing the government's "increasingly stretched" liquidity position. On 15 April 2015, S&P lowered the Hellenic Republic's (long term) sovereign ratings to "CCC+" from "B-", removed these ratings from CreditWatch and maintained the outlook at negative status. On 10 June 2015, S&P downgraded Greece's sovereign rating by one notch to CCC, citing the decision of the Greek government to delay the scheduled 5 June 2015 debt service payment to the IMF to the end of June 2015, as indicative of a prioritisation by the Greek government of pension and other domestic payments over external debt service obligations, and maintained the negative outlook. Moody's has also placed Greece's sovereign bond rating on review for a possible downgrade in February 2015 because of the uncertain results of negotiations between Greece and its creditors. Finally, Moody's downgraded Greece's government (long-term) bond rating to Caa2 from Caa1 on 29 April 2015, maintaining a negative rating outlook. The "high uncertainty over whether Greece's government will reach an agreement with official creditors in time to meet upcoming repayments on marketable debt and the significant implementation risks" of a follow-up, medium-term financing programme even if an agreement is reached, given "the weakened economy and a fragile domestic political environment" were stressed as the key factors underlying the downgrade.

European Commission Rules on State Aid – Restructuring Plans

Greek banks that received capital from the Hellenic Financial Stability Fund and the Hellenic Republic are subject to European Commission rules on state aid restricting their operations in order to ensure that the state aid provided does not lead to the distortion of competition.

On 27 July 2012, the European Commission temporarily approved the state aid received by several Greek banks, including the Bank, for their recapitalisation, and preliminarily assessed the criteria required under EU state aid rules, such as the appropriateness, necessity and proportionality of such criteria. Subsequently, the European Commission launched a formal investigation of such criteria in order to conduct a more detailed assessment and allow third parties to submit comments.

Approval of state aid from the Directorate General for Competition of the European Commission requires approval of an amended restructuring plan. On 31 October 2012 the Hellenic Republic submitted (through the Ministry of Finance) a restructuring plan for the Bank to the Directorate General for Competition of the European Commission in accordance with Greek Law 3864/2010. As a consequence of subsequent mergers and acquisitions and structural changes that took place in the Greek banking sector and the Bank's 2013 share capital increase, the submitted restructuring plan was deemed to no longer be adequately representative of the Bank's situation at the time. As a result, the Directorate General for Competition of the European Commission requested re-submission of the Bank's restructuring plan. The updated plan was submitted in June 2014, following the May 2014 capital increase, and was approved by the European Commission on 23 July 2014.

ECB Stress Tests

The ECB conducted a comprehensive assessment exercise in preparation for assuming its banking supervision responsibilities under the Single Supervisory Mechanism (**SSM**) in November 2014. The scope of the project was threefold: to (i) achieve transparency through the enhancement of the quality and quantity of the information related to the real condition of credit institutions, (ii) identify all the measures necessary to remedy for cases of financial and economic weaknesses, and (iii) enhance the confidence of all stakeholders, depositors, markets, and investors towards the solvency of banking institutions of the Eurozone, in order to safeguard financial stability and enhance the growth prospects of the Eurozone economy.

The comprehensive assessment covered 130 credit institutions with assets of \notin 22.1 trillion, which accounts for 81.6% of total banking assets in the SSM. The four Greek credit institutions that took part in the comprehensive assessment were Alpha Bank S.A., Eurobank Ergasias S.A., National Bank of Greece S.A., and Piraeus Bank S.A. These banks are, since 4 November 2014, supervised by the ECB directly.

Capital Needs Assessment

On 26 October 2014, the Bank of Greece announced that three of the four Greek credit institutions that took part in the comprehensive assessment have no capital shortfall under the relevant dynamic balance sheet assumption (including the Bank) and the fourth bank has practically no shortfall.

Prospective investors are referred generally to information appearing on the website of the Ministry of Finance of Greece and the reports of the IMF and EU Commission (please see *http://www.minfin.gr* or *http://www.minfin.gr/portal/en* (English version), *www.imf.org*, and *http://ec.europa.eu/economy_finance/*).

Description of National Bank of Greece S.A.

The text of the section "National Bank of Greece S.A." at page 58 of the Information Memorandum shall be substituted in its entirety by the following text, which shall be deemed to be incorporated in, and form part of, the Information Memorandum:

"National Bank of Greece S.A. (the **Issuer** or **Bank**) was founded in 1841 and incorporated as a company limited by shares (*anonimi eteria*) pursuant to Greek law as published in the Greek Government Gazette No. 6 on 30 March 1841 (registered number 6062106/B/86/01). Its current corporate form will expire on 27 February 2053 but may be further extended by a resolution of the General Meeting of Shareholders. The Bank is domiciled in Greece. The Bank's headquarters and its registered office are located at 86 Eolou Street, 10232 Athens, Greece and its telephone number is +30 210 334 1000.

The Bank and its consolidated subsidiaries (together, the **Group**) comprise a diversified financial services group engaged in a wide range of banking, financial services, insurance, stock-brokerage and finance-related activities throughout the Hellenic Republic and internationally.

The Bank has been listed on the Athens Exchange (**ATHEX**) since 1880. Until the establishment of the Bank of Greece, the central bank, in 1928, the Bank was also responsible for issuing currency. Until the late 1980's, in common with other Greek banks, the Bank operated in a highly regulated environment, which significantly influenced its lending and investment activities.

As at 31 December 2014, the Group's total assets were $\notin 115,464$ million compared to $\notin 110,930$ million on 31 December 2013, loans and advances to customers were $\notin 68,109$ million compared to $\notin 67,250$ million, and due to banks and due to customers (total deposits) were $\notin 87,155$ million compared to $\notin 90,733$ million as at the same dates. As at 31 December 2014, the Group's total equity was $\notin 10,466$ million, consisting of $\notin 9,612$ million equity attributable to NBG shareholders, non-controlling interest of $\notin 772$ million and $\notin 82$ million preferred securities.

As at 31 December 2014, the Bank operated throughout Greece through 528 branches (including one premium branch in Golden Hall) and one private banking unit, and an international network comprising 1,218 branches outside the Hellenic Republic (including foreign subsidiaries and Bank branches in the United Kingdom, Egypt and Cyprus). The Bank has nine commercial banking subsidiaries operating in Turkey, Bulgaria, Romania, FYROM, Serbia, Albania, Malta, Cyprus and South Africa.

The Bank's share capital is broadly dispersed across individuals and legal entities in Greece and abroad. As at the date of this Supplement, the Bank's outstanding issued share capital amounted to ϵ 2,413,736,838.60, divided into a) 3,533,149,631 common shares of a par value of ϵ 0.30 each; b) 12,639,831 Series A non-cumulative non-voting redeemable preference shares offered in the form of ADRs in the United States, of a par value of ϵ 0.30 each; and c) 270,000,000 redeemable, registered preference shares issued under law 3723/2008, of a par value of ϵ 5.00 each.

On 6 March 2014, the Bank of Greece informed the Bank of its capital shortfall, amounting to $\notin 2.2$ billion, arising from the Bank of Greece stress tests for Greek banks in 2014. In arriving at this estimate, the Bank of Greece assumed internal capital generation by the Bank over the period June 2013 to December 2016 of $\notin 1.5$ billion based on what the Bank of Greece characterised as a conservative adjustment of restructuring plans submitted by the Bank to the Bank of Greece (*Source*: Bank of Greece "2013 Stress Test of the Greek Banking Sector", March 2014).

Following the request by the Bank of Greece, on 10 April 2014, the Bank presented a capital plan to the Bank of Greece, describing the actions it intends to take to address the capital shortfall. The Bank of Greece approved this plan on 11 April 2014. This capital plan includes certain capital actions amounting to $\notin 1,040$ million. Approximately one-half of this amount relates to completed capital actions relating to the disposal of Astir Palace Hotel agreed in February), and the higher than initially expected benefit from the voluntary retirement scheme completed in December 2013. Of the remaining benefit from capital actions, approximately half relates to the disposal of non-core businesses and half to loans de-risking. The Bank of Greece approved the implementation of these capital actions amounting to $\notin 1,040$ million and an equity capital increase (in the form of share capital and share premium) for the residual needs amounting to $\notin 1,143$ million. In addition to meeting these residual needs of $\notin 1,143$ million, the Bank decided to further increase its equity base by an amount of $\notin 1.4$ billion in order to strengthen its Basel III CET 1 ratio and maintain the flexibility to redeem the Greek State Preference Shares. The share capital increase was completed on 13 May 2014.

The Bank is incorporated with limited liability and is subject to regulation and supervision by the Bank of Greece. The Bank's common shares are listed on the ATHEX. In addition, the Bank's American Depositary Receipts representing the common shares and American Depositary Receipts representing Series A preference shares are listed on the New York Stock Exchange."

Taxation - The Hellenic Republic

The text of the second paragraph of section "Taxation – The Hellenic Republic" at page 65 of the Information Memorandum, as such section was substituted in its entirety by the Seventh Supplement dated 5 January 2015, shall be substituted by the following text, which shall be deemed to be incorporated in, and form part of, the Information Memorandum:

"2. The Greek Ministry of Finance has recently issued a circular on the application of the provisions of Greek Law 4172/2013 (as amended and currently in force) relating to capital gains tax, clarifying that pursuant to article 14 of Greek Law 3156/2003 capital gains realized from the transfer of corporate bonds are exempted from taxation in Greece. The provisions of Greek Law 3156/2003 also apply to the Notes. However, it remains unclear whether the above exemption applies to Noteholders who are Greek legal entities or other entities with a permanent establishment in Greece."

To the extent that there is any inconsistency between (a) any statement in this Supplement and (b) any other statement in or incorporated by reference in the Information Memorandum, the statements in (a) above will prevail.

Save as disclosed in this Supplement, no other significant new factor, material mistake or inaccuracy relating to information included in the Information Memorandum, as supplemented by the Supplements, has arisen or been noted since the publication of the Information Memorandum.